



Formosa Plastics®

Formosa Plastics Corporation, Texas  
201 Formosa Drive • P.O. Box 700  
Point Comfort, TX 77978  
Telephone: 361-987-7000

January 30, 2019

Certified Mail: 7018 0360 0000 5327 9320  
Air Section Manager, Region 14  
Texas Commission Environmental Quality  
6300 Ocean Drive, Suite 1200  
Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas  
TCEQ Air Quality Account No. CB-0038-Q  
Fourth Quarter 2018 SUMMA Canister Report

Dear Air Section Manager:

Per your request, we have enclosed a quarterly summary of results from the Point Comfort SUMMA Canister Monitoring System. The fourth quarter of 2018 results are shown for each site on the attached tables. Additionally, we have included wind roses generated by the weather sensor on the FTIR or wind direction data from other air monitoring devices for each SUMMA canister sampling date during the fourth quarter of 2018.

Beginning with the first sample date in the fourth quarter 2003, we have also included average wind speed and wind direction on the tables. This was done at the request of Mr. David Carmichael of the TCEQ Austin office. In addition, at the request of Mr. Carmichael, the following changes have been made to the tables:

The duplicate sample data for all compounds has been removed from the VOC Canister Analysis Tables;

The averaged duplicate sample data was replaced with only the routine sample data in the VOC Canister Analysis Tables; and

An additional VOC Canister Analysis Table was created for the duplicate samples data. This was done so that the relative percent difference (RPD) could be calculated. The calculation for obtaining the RPD is shown in the Duplicate Sample section of the attached Calculation Methodology.

During a telephone conversation with Mr. Vincent Leopold (TCEQ TARA Group) on April 9, 1998, he requested a disk copy of the SUMMA Canister sampling results be included with the quarterly report. Enclosed is an electronic copy of the fourth quarter 2018 SUMMA Canister Report.

Should you have any questions please contact Vanessa Peppers by e-mail at [VanessaP@ftpc.fpcusa.com](mailto:VanessaP@ftpc.fpcusa.com).

Sincerely,

A handwritten signature in blue ink, appearing to be 'RC' followed by a stylized flourish.

Rick Crabtree  
Vice President/General Manager  
Formosa Plastics Corporation, Texas

Attachments

January 30, 2019

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cc: Dr. Tracie Phillips  
Toxicology Division  
Texas Commission on Environmental Quality  
P. O. Box 13087  
Austin, Texas 78711-3087

Certified Mail: 7018 0360 0000 5327 9351

# FORMOSA PLASTICS CORPORATION, TEXAS

## SUMMA CANISTER QUARTERLY REPORT

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### CALCULATION METHODOLOGY

Following is the calculation methodologies used to calculate the Year-To-Date Sum and Year-To-Date Average for the four SUMMA canister sampling sites. Please note, there are two columns associated with each component analyzed. The column titled "Actual" represents the results reported by the independent laboratory contracted to analyze the SUMMA canisters. The column titled "½ Reported LOD (Limit of Detection)" represents either the actual result or one-half the limit of detection reported by the laboratory, as appropriate.

#### ACTUAL

The following is entered into the column titled "Actual":

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to date average;

ND (Non Detect) - As reported by the laboratory. The value of "0" is used to calculate the year to date sum and the year-to-date average;

BDL (Below Detection Limit) - Entered when the actual result is less than the reported limit of detection. The value of "0" is used to calculate the year-to-date sum and the year-to-date average;

"\*" - Non operational sampling period.

#### ½ REPORTED LOD (LIMIT OF DETECTION)

The following is entered into the column titled "½ Reported LOD":

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to-date average;

½ the Reported Limit of Detection - ½ the reported limit of detection when the results are reported as non-detect and when the actual result is below the detection limit (BDL). ½ the reported limit of detection is used to calculate the year-to-date sum and the year-to-date average.

"\*" - Non operational sampling period.

## **FORMOSA PLASTICS CORPORATION, TEXAS**

### **SUMMA CANISTER QUARTERLY REPORT**

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Limit of Detection (LOD) - Method Detection Limit, Limit of Detection, Reporting Limit, etc... as reported by the independent laboratory conducting the analysis.

#### **DUPLICATE SAMPLES**

Beginning with the revised First Quarter 2004 Report, submitted on October 22, 2004, the duplicate samples will be reported discreetly on a separate VOC Canister Analysis Table. This is done so that the duplicate samples can be compared to the routine samples and the Relative Percent Difference (RPD) can be calculated. The RPD is calculated using the following equation:

$$\{(X1-X2) / [(X1+X2) / 2]\} \times 100$$

Mr. David Carmichael provided this equation in his August 20, 2004 e-mail request for changes. Where the duplicate and routine sample indicated "ND", the RPD is reported as "ND". Where the duplicate or routine sample indicated "ND" and the other indicated a concentration greater than ND, the RPD is calculated by using the value entered in the actual concentration column and the value entered in the ½ Reported LOD column.

#### **YEAR-TO-DATE SUM**

The year-to-date sum is calculated by taking the sum of all values entered in the column.

#### **YEAR-TO-DATE AVERAGE**

The following formula is used to calculate the year-to-date average:

Year-To-Date Sum / (Number of theoretical sample periods - Number of non operational sample periods)

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - CITY HALL SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
1/5/2018	71	5.0	*	*	*	*	*	*	*	*	*	*
1/11/2018	202	8.9	*	*	*	*	*	*	*	*	*	*
1/17/2018	311	4.2	*	*	*	*	*	*	*	*	*	*
1/23/2018	275	4.0	*	*	*	*	*	*	*	*	*	*
1/29/2018	341	5.6	*	*	*	*	*	*	*	*	*	*
2/4/2018	197	5.2	ND	0.0500	ND	0.1250	0.2470	0.0500	ND	0.0500	0.1070	0.1070
2/10/2018	218	3.8	ND	0.0500	ND	0.1250	0.8060	0.0500	0.6680	0.0500	ND	0.0500
2/16/2018	147	5.1	ND	0.0500	ND	0.1250	0.4030	0.0500	ND	0.0500	1.7000	1.7000
2/22/2018	315	6.2	*	*	*	*	*	*	*	*	*	*
2/28/2018	145	10.1	ND	0.0500	0.377	0.3770	1.6500	1.6500	ND	0.0500	*	*
3/6/2018	211	8.3	ND	0.0500	ND	0.1250	0.8420	0.0500	0.4750	0.0500	ND	0.0500
3/12/2018	279	7.4	ND	0.0500	ND	0.1250	0.5510	0.0500	0.6320	0.0500	0.2470	0.2470
3/18/2018	125	5.4	ND	0.0500	ND	0.1250	0.1690	0.0500	ND	0.0500	ND	0.0500
3/24/2018	146	7.7	ND	0.0500	ND	0.1250	0.2300	0.0500	ND	0.0500	ND	0.0500
3/30/2018	126	7.1	ND	0.0500	ND	0.1250	0.4860	0.0500	0.4690	0.0500	ND	0.0500
4/5/2018	96	5.6	ND	0.0500	ND	0.1250	0.1990	0.0500	ND	0.0500	0.1390	0.1390
4/11/2018	114	4.4	ND	0.0500	ND	0.1250	0.3390	0.0500	0.1510	0.0500	0.1160	0.1160
4/17/2018	144	9.7	ND	0.0500	ND	0.1250	0.3190	0.0500	ND	0.0500	0.1730	0.1730
4/23/2018	243	1.2	ND	0.0500	ND	0.1250	0.2270	0.0500	2.5900	0.0500	ND	0.0500
4/29/2018	106	5.5	ND	0.0500	ND	0.1250	0.1580	0.0500	ND	0.0500	ND	0.0500
5/5/2018	320	3.5	ND	0.0500	ND	0.1250	0.4130	0.0500	0.9900	0.0500	0.8170	0.8170
5/11/2018	122	9.1	ND	0.0500	ND	0.1250	0.1340	0.0500	ND	0.0500	0.2730	0.2730
5/17/2018	159	6.0	ND	0.0500	ND	0.1250	0.1250	0.0500	ND	0.0500	ND	0.0500
5/23/2018	96	5.2	*	*	*	*	*	*	ND	0.0500	ND	0.0500
5/29/2018	144	5.2	ND	0.0500	ND	0.1250	0.1680	0.0500	ND	0.0500	*	*
6/4/2018	169	4.4	ND	0.0500	ND	0.1250	0.1800	0.0500	ND	0.0500	0.1630	0.1630
6/10/2018	140	8.8	ND	0.0500	ND	0.1250	0.1750	0.0500	0.1090	0.0500	0.1030	0.1030
6/16/2018	114	8.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/22/2018	151	4.9	ND	0.0500	ND	0.1250	0.2280	0.0500	ND	0.0500	ND	0.0500
6/28/2018	143	7.0	ND	0.0500	ND	0.1250	0.2150	0.0500	ND	0.0500	0.1380	0.1380
7/4/2018	126	7.1	ND	0.0500	ND	0.1250	0.1020	0.0500	0.8600	0.0500	ND	0.0500
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.3820	0.0500	ND	0.0500	6.1100	6.1100
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.2210	0.0500	ND	0.0500	ND	0.0500
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.1850	0.0500	ND	0.0500	0.1760	0.1760
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1990	0.1990
8/3/2018	107	4.1	ND	0.0500	ND	0.1250	0.3850	0.0500	0.6580	0.0500	ND	0.0500
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	0.2890	0.0500	ND	0.0500	0.7690	0.7690
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	0.1220	0.0500	ND	0.0500	ND	0.0500
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	0.1930	0.0500	0.7720	0.0500	0.1020	0.1020
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	0.1530	0.0500	ND	0.0500	0.9860	0.9860
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	*	0.0500	*	0.0500	0.1100	0.1100
9/18/2018	187	1.3	*	*	*	*	*	*	*	*	*	*
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1490	0.0500	ND	0.0500	ND	0.0500
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.5390	0.0500	2.3200	0.0500	ND	0.0500
10/6/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4490	0.0500	0.7060	0.0500	2.0900	2.0900
10/18/2018	343	4.9	0.6490	0.6490	ND	0.1250	0.6530	0.0500	0.9220	0.0500	ND	0.0500
10/26/2018	249	1.5	0.6510	0.6510	ND	0.1250	0.3480	0.0500	0.3960	0.0500	0.1230	0.1230
11/1/2018	324	6.2	*	*	*	*	*	*	*	*	*	*
11/7/2018	157	4.8	ND	0.0500	0.275	0.2750	0.1720	0.0500	ND	0.0500	ND	0.0500

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - CITY HALL SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
11/13/2018	321	7.6	ND	0.0500	ND	0.1250	0.1190	0.1190	ND	0.0500	ND	0.0500
11/17/2018	88	4.5	*	*	*	*	*	*	*	*	*	*
11/25/2018	316	3.0	ND	0.0500	ND	0.1250	0.2070	0.2070	ND	0.0500	ND	0.0500
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.1750	0.1750	ND	0.0500	ND	0.1200
12/7/2018	102	1.9	ND	0.0500	ND	0.1250	0.2320	0.2320	ND	0.0500	ND	0.0500
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1500	0.1500	ND	0.0500	ND	0.0500
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2280	0.2280	0.1510	0.1510	ND	0.2110
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.1090	0.1090	ND	0.0500	ND	0.0500
12/31/2018	334	4.2	ND	0.0500	ND	0.1250	0.1970	0.1970	ND	0.0500	ND	0.0500

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	1.3000	3.6500	0.6520	6.5270	14.0230	14.2280	12.8690	14.5190	16.2140	17.5140
Rolling Year Average	0.0265	0.0745	0.0133	0.1332	0.2862	0.2903	0.2626	0.2963	0.3309	0.3574
Annual Average	0.0265	0.0745	0.0133	0.1332	0.2862	0.2903	0.2626	0.2963	0.3309	0.3574

Number of theoretical sample periods

Number of non operational sample periods

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

TCEQ Air Monitoring Comparison Values (ppb)				Investigation Limit (ppb)
Chemical	ST	L.T		
Vinyl Chloride	27,000	0.47		25
Ethylene Dichloride	94	0.72		29.7
Benzene	180	1.4		28.2
Ethylene	500,000	30		500
1, 3 Butadiene	1,700	9		25

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - CITY HALL**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
02/10/18	94	5.4	ND	0.0500	ND	0.1250	0.8060	0.8060	0.6680	0.6680	ND	0.0500
02/10/18 <sub>d</sub>	94	5.4	ND	0.0500	ND	0.1250	1.1600	1.1600	0.8460	0.8460	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		-36.0122		-23.5139		ND	
03/12/18	279	7.4	ND	0.0500	ND	0.1250	0.5510	0.5510	0.6320	0.6320	ND	0.0500
03/12/18 <sub>d</sub>	279	7.4	ND	0.0500	ND	0.1250	0.4600	0.4600	0.5360	0.5360	0.1140	0.1140
Relative Percent Difference (RPD)			ND		ND		18.0020		16.4384		-78.0488	
03/24/18	146	7.7	ND	0.0500	ND	0.1250	0.2300	0.2300	ND	0.0500	ND	0.0500
03/24/18 <sub>d</sub>	146	7.7	ND	0.0500	ND	0.1250	0.2310	0.2310	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		-0.4338		ND		ND	
05/05/18	320	3.5	ND	0.0500	ND	0.1250	0.4130	0.4130	0.9900	0.9900	0.2730	0.2730
05/05/18 <sub>d</sub>	320	3.5	ND	0.0500	ND	0.1250	0.3700	0.3700	1.2000	1.2000	0.1500	0.1500
Relative Percent Difference (RPD)			ND		ND		10.9834		-19.1781		58.1560	
06/16/18	114	8.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
06/16/18 <sub>d</sub>	114	8.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		ND		ND		ND	
07/16/18	153	5.9	ND	0.0500	ND	0.1250	0.2210	0.2210	ND	0.0500	0.1760	0.1760
07/16/18 <sub>d</sub>	153	5.9	ND	0.0500	ND	0.1250	0.2380	0.2380	ND	0.0500	0.1720	0.1720
Relative Percent Difference (RPD)			ND		ND		-7.4074		ND		2.2989	
09/30/18	65	2.2	ND	0.0500	ND	0.1250	0.5390	0.5390	2.3200	2.3200	1.2400	1.2400
09/30/18 <sub>d</sub>	65	2.2	ND	0.0500	ND	0.1250	0.5620	0.5620	2.3100	2.3100	1.1400	1.1400
Relative Percent Difference (RPD)			ND		ND		-4.1780		0.4320		8.4934	
11/01/18	324	6.2	*	*	*	*	*	*	*	*	*	*
11/01/18 <sub>d</sub>	324	6.2	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
12/25/18	106	5.9	ND	0.0500	ND	0.1250	0.1090	0.1090	ND	0.0500	ND	0.0500
12/25/18 <sub>d</sub>	106	5.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	

\* = non operational, data from the North site was used for Wind Direction and Wind Speed, if available

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - FORMOSA TRAINING COMPLEX**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
1/5/2018	71	5.0	*	*	*	*	*	*	*	*	*	*
1/11/2018	202	8.9	*	*	*	*	*	*	*	*	*	*
1/17/2018	311	4.2	*	*	*	*	*	*	*	*	*	*
1/23/2018	275	4.0	ND	0.0500	ND	0.1250	0.5740	0.5740	0.6610	0.6610	ND	0.0500
1/29/2018	341	5.6	ND	0.0500	ND	0.1250	0.1420	0.1420	ND	0.0500	ND	0.0500
2/4/2018	197	5.2	ND	0.0500	ND	0.1250	0.4520	0.4520	0.2290	0.2290	0.1430	0.1430
2/10/2018	218	3.8	ND	0.0500	ND	0.1250	0.5940	0.5940	0.8710	0.8710	ND	0.0500
2/16/2018	147	5.1	ND	0.0500	ND	0.1250	0.1250	0.1250	ND	0.0500	2.9300	2.9300
2/22/2018	315	6.2	*	*	*	*	*	*	*	*	*	*
2/28/2018	145	10.1	ND	0.0500	0.371	0.3710	1.8500	1.8500	ND	0.0500	0.1300	0.1300
3/6/2018	211	8.3	ND	0.0500	ND	0.1250	0.9270	0.9270	1.5500	1.5500	0.2600	0.2600
3/12/2018	279	7.4	ND	0.0500	ND	0.1250	0.4440	0.4440	0.1130	0.1130	ND	0.0500
3/18/2018	125	5.4	ND	0.0500	ND	0.1250	0.2560	0.2560	ND	0.0500	ND	0.0500
3/24/2018	146	7.7	ND	0.0500	ND	0.1250	0.2090	0.2090	ND	0.0500	ND	0.0500
3/30/2018	126	7.1	ND	0.0500	ND	0.1250	0.5750	0.5750	0.6040	0.6040	0.1270	0.1270
4/5/2018	96	5.6	ND	0.0500	ND	0.1250	0.2700	0.2700	0.3370	0.3370	0.3560	0.3560
4/11/2018	114	4.4	ND	0.0500	ND	0.1250	0.3620	0.3620	0.4940	0.4940	0.5740	0.5740
4/17/2018	144	9.7	ND	0.0500	ND	0.1250	0.1600	0.1600	ND	0.0500	0.1270	0.1270
4/23/2018	243	1.2	ND	0.0500	ND	0.1250	0.3330	0.3330	1.3800	1.3800	0.3610	0.3610
4/29/2018	106	5.5	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	ND	0.0500
5/5/2018	320	3.5	ND	0.0500	ND	0.1250	0.1030	0.1030	ND	0.0500	ND	0.0500
5/11/2018	122	9.1	ND	0.0500	ND	0.1250	0.1170	0.1170	ND	0.0500	ND	0.0500
5/17/2018	159	6.0	ND	0.0500	ND	0.1250	0.1250	0.1250	ND	0.0500	ND	0.0500
5/23/2018	96	5.2	*	*	*	*	*	*	*	*	*	*
5/29/2018	144	5.2	ND	0.0500	ND	0.1250	0.1380	0.1380	ND	0.0500	0.1160	0.1160
6/4/2018	169	4.4	ND	0.0500	ND	0.1250	0.0500	0.0500	ND	0.0500	0.1160	0.1160
6/10/2018	140	8.8	ND	0.0500	ND	0.1250	0.1450	0.1450	ND	0.0500	0.3220	0.3220
6/16/2018	114	8.9	ND	0.0500	ND	0.1250	0.0500	0.0500	ND	0.0500	ND	0.0500
6/22/2018	151	4.9	ND	0.0500	ND	0.1250	0.1790	0.1790	ND	0.0500	0.1930	0.1930
6/28/2018	143	7.0	ND	0.0500	ND	0.1250	0.1490	0.1490	ND	0.0500	0.3960	0.3960
7/4/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.2370	0.2370	ND	0.0500	ND	0.0500
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.2580	0.2580	ND	0.0500	0.1030	0.1030
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	0.1330	0.1330
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	0.1810	0.1810	ND	0.0500	ND	0.0500
8/3/2018	107	4.1	ND	0.0500	ND	0.1250	0.2720	0.2720	1.6000	1.6000	0.1470	0.1470
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1350	0.1350
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	0.1340	0.1340	ND	0.0500	0.2690	0.2690
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1020	0.1020
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	0.3340	0.3340	0.7480	0.7480	1.2500	1.2500
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1140	0.1140
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	*	*	*	*	*	*
9/18/2018	187	1.3	*	*	*	*	*	*	*	*	*	*
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1860	0.1860	ND	0.0500	ND	0.0500
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.6890	0.6890	2.7400	2.7400	2.2600	2.2600
10/6/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4090	0.4090	1.3300	1.3300	3.9700	3.9700
10/18/2018	343	4.9	1.2200	1.2200	ND	0.1250	0.5310	0.5310	1.3900	1.3900	ND	0.0500
10/26/2018	249	1.5	*	*	*	*	*	*	*	*	*	*
11/1/2018	324	6.2	*	*	*	*	*	*	*	*	*	*
11/11/2018	24	6.2	ND	0.0500	ND	0.1250	0.5490	0.5490	0.6790	0.6790	0.3280	0.3280
11/17/2018	88	4.5	ND	0.0500	ND	0.1250	0.1320	0.1320	ND	0.0500	ND	0.0500

## FORMOSA VOC CANISTER ANALYSIS

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
11/23/2018	46	0.4	ND	0.0500	ND	0.1250	0.2610	0.7120	0.6110			
11/29/2018	145	3.2	ND	0.0500	0.272	0.2720	0.4590	0.0500	0.3840			
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.2100	0.0500	0.0500			
12/7/2018	102	1.9	*	*	*	*	*	*	*			
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1570	0.0500	ND			
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2440	0.1320	0.4010			
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.1430	0.0500	ND			
12/31/2018	334	4.2	ND	0.0500	ND	0.1250	0.2340	0.0500	ND			

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	1.2200	3.6200	0.6430	6.5180	14.0650	14.3650	15.5700	17.1700	16.3580	17.4080
Rolling Year Average	0.0249	0.0739	0.0131	0.1330	0.2870	0.2932	0.3178	0.3504	0.3338	0.3553
Annual Average	0.0249	0.0739	0.0131	0.1330	0.2870	0.2932	0.3178	0.3504	0.3338	0.3553

Number of theoretical sample periods

Number of non operational sample periods

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

Chemical	TCEQ Air Monitoring Comparison Values (ppb)		Investigation Limit (ppb)
	ST	LT	
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1,3 Butadiene	1,700	9	95

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - FORMOSA TRAINING COMPLEX**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
02/04/18	197	5.2	ND	0.0500	ND	0.1250	0.4520	0.4520	0.2290	0.2290	0.1430	0.1430
02/04/18d	197	5.2	ND	0.0500	ND	0.1250	0.8140	0.8140	0.3260	0.3260	0.2240	0.2240
Relative Percent Difference (RPD)			ND		ND		-57.1880		-34.9550		-44.1417	
03/06/18	211	8.3	ND	0.0500	ND	0.1250	0.9270	0.9270	1.5500	1.5500	0.2600	0.2600
03/06/18d	211	8.3	ND	0.0500	ND	0.1250	0.9640	0.9640	1.6900	1.6900	0.2860	0.2860
Relative Percent Difference (RPD)			ND		ND		-3.9133		-8.6420		-9.5238	
07/22/18	176	5.7	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	0.1330	0.1330
07/22/18d	176	5.7	ND	0.0500	ND	0.1250	0.1190	0.1190	ND	0.0500	0.1490	0.1490
Relative Percent Difference (RPD)			ND		ND		-9.6916		ND		-11.3475	
08/09/18	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1350	0.1350
08/09/18d	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1750	0.1750
Relative Percent Difference (RPD)			ND		ND		ND		ND		-25.8065	
09/12/18	60	4.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1140	0.1140
09/12/18d	60	4.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1130	0.1130
Relative Percent Difference (RPD)			ND		ND		ND		ND		0.8311	
10/18/18	343	4.9	1.2200	1.2200	ND	0.1250	0.5310	0.5310	1.3900	1.3900	ND	0.0500
10/18/18d	343	4.9	0.5900	0.5900	ND	0.1250	0.4390	0.4390	1.3400	1.3400	ND	0.0500
Relative Percent Difference (RPD)			69.6133		ND		18.9691		3.6630		ND	

d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
1/5/2018	71	5.0	*	*	*	*	*	*	*	*	*	*
1/11/2018	202	8.9	*	*	*	*	*	*	*	*	*	*
1/17/2018	311	4.2	*	*	*	*	*	*	*	*	*	*
1/23/2018	275	4.0	ND	0.0500	ND	0.1250	0.4990	0.7540	0.7540	ND	0.0500	0.0500
1/29/2018	341	5.6	ND	0.0500	ND	0.1250	0.2730	0.2730	0.0500	ND	0.0500	0.0500
2/4/2018	197	5.2	ND	0.0500	ND	0.1250	0.2950	0.2240	0.0500	ND	0.0500	0.0500
2/10/2018	218	3.8	ND	0.0500	ND	0.1250	0.3350	0.3040	0.0500	ND	0.0500	0.0500
2/16/2018	147	5.1	ND	0.0500	ND	0.2500	0.1040	0.0500	0.1040	ND	0.0500	0.0500
2/22/2018	315	6.2	ND	0.0500	ND	0.1250	0.5570	2.6200	2.6200	ND	0.0500	0.0500
2/28/2018	145	10.1	ND	0.0500	ND	0.1250	1.0400	0.0500	0.0500	ND	0.1050	0.1050
3/6/2018	211	8.3	ND	0.0500	ND	0.1250	0.6710	1.1100	1.1100	0.2140	0.2140	0.2140
3/12/2018	279	7.4	ND	0.0500	ND	0.1250	0.4470	0.4470	0.4200	0.4200	0.3760	0.3760
3/18/2018	125	5.4	ND	0.0500	ND	0.1250	0.1820	0.1820	0.0500	ND	0.0500	0.0500
3/24/2018	146	7.7	ND	0.0500	ND	0.1250	0.2610	0.2610	0.0500	ND	0.0500	0.0500
3/30/2018	126	7.1	ND	0.0500	ND	0.1250	0.3940	0.3940	1.0300	1.0300	ND	0.0500
4/5/2018	96	5.6	ND	0.0500	ND	0.1250	0.2170	1.3200	1.3200	1.2200	1.2200	1.2200
4/11/2018	114	4.4	ND	0.0500	ND	0.1250	0.5800	0.3800	1.4100	1.1100	1.1100	1.1100
4/17/2018	144	9.7	ND	0.0500	ND	0.1250	0.2230	0.2230	0.0500	ND	0.0500	0.0500
4/23/2018	243	1.2	ND	0.0500	ND	0.1250	0.5180	0.5180	0.3960	0.3960	0.1550	0.1550
4/29/2018	106	5.5	ND	0.0500	ND	0.1250	0.2900	0.2900	ND	ND	0.0500	0.0500
5/5/2018	320	3.5	ND	0.0500	ND	0.1250	ND	ND	ND	ND	0.0500	0.0500
5/11/2018	122	9.1	ND	0.0500	ND	0.1250	0.1190	0.1190	0.0500	ND	0.0500	0.0500
5/17/2018	159	6.0	ND	0.0500	ND	0.2500	0.1250	0.1250	0.0500	ND	0.0500	0.0500
5/23/2018	96	5.2	*	*	*	*	*	*	*	*	*	*
5/29/2018	144	5.2	ND	0.0500	ND	0.1250	ND	ND	0.0500	ND	0.1840	0.1840
6/4/2018	169	4.4	ND	0.0500	ND	0.1250	0.1130	0.1130	0.1540	0.1630	0.1630	0.1630
6/10/2018	140	8.8	ND	0.0500	ND	0.1250	ND	ND	ND	0.1360	0.1360	0.1360
6/16/2018	114	8.9	ND	0.0500	ND	0.1250	ND	ND	ND	ND	0.0500	0.0500
6/22/2018	151	4.9	ND	0.0500	ND	0.1250	0.1380	0.1380	0.0500	0.2250	0.2250	0.2250
6/28/2018	143	7.0	ND	0.0500	ND	0.1250	ND	ND	ND	ND	0.0500	0.0500
7/4/2018	126	7.1	ND	0.0500	ND	0.1250	0.3940	1.0300	1.0300	ND	0.0500	0.0500
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.1750	0.1750	0.0500	ND	0.0500	0.0500

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - PARK SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
10/6/2018	126	7.1	*	*	*	*	*	*	*	*	*	*
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.2730	0.2730	2.7200	2.7200	7.3000	7.3000
10/18/2018	343	4.9	0.5680	0.5680	ND	0.1250	0.8150	0.8150	2.0600	2.0600	0.1260	0.1260
10/26/2018	249	1.5	0.5910	0.5910	ND	0.1250	0.2160	0.2160	ND	0.0500	ND	0.0500
11/1/2018	324	6.2	ND	0.0500	ND	0.1250	0.0000	0.0000	0.2380	0.2380	0.6500	0.6500
11/7/2018	157	4.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
11/13/2018	321	7.6	ND	0.0500	ND	0.1250	0.1430	0.1430	ND	0.0500	ND	0.0500
11/17/2018	88	4.5	*	*	*	*	*	*	*	*	*	*
11/23/2018	316	3.0	ND	0.0500	ND	0.1250	0.4350	0.4350	0.4050	0.4050	0.7780	0.7780
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.1660	0.1660	ND	0.0500	ND	0.0500
12/7/2018	102	1.9	ND	0.0500	ND	0.1250	0.2060	0.2060	ND	0.0500	ND	0.0500
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1180	0.1180	ND	0.0500	ND	0.0500
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2070	0.2070	0.3010	0.3010	0.9900	0.9900
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.1430	0.1430	ND	0.0500	ND	0.0500
12/31/2018	254	3.2	ND	0.0500	ND	0.1250	0.2350	0.2350	ND	0.0500	ND	0.0500

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	1.1590	3.6090	0.0000	6.7500	12.6900	13.0900	18.2710	19.8210	15.7760	17.2760
Rolling Year Average	0.0227	0.0708	0.0000	0.1324	0.2488	0.2567	0.3583	0.3886	0.3093	0.3387
Annual Average	0.0227	0.0708	0.0000	0.1324	0.2488	0.2567	0.3583	0.3886	0.3093	0.3387

Number of theoretical sample periods  
Number of non operational sample periods

60	60	60	60	60	60	60	60	60	60	60
9	9	9	9	9	9	9	9	9	9	9

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

TCEQ Air Monitoring Comparison Values (ppb)				Investigation
Chemical	ST	LT	Limit (ppb)	
Vinyl Chloride	27,000	0.47	25	
Ethylene Dichloride	94	0.72	29.7	
Benzene	180	1.4	28.2	
Ethylene	500,000	30	500	
1, 3 Butadiene	1,700	9	25	

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - PARK SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
01/23/18	275	4.0	ND	0.0500	ND	0.1250	0.4990	0.4990	0.7540	0.7540	ND	0.0500
01/23/18 <sub>d</sub>	275	4.0	ND	0.5000	ND	0.1250	0.5020	0.5020	0.7230	0.7230	ND	0.0500
Relative Percent Difference (RPD)			ND		ND		-0.5994		4.1977		ND	
02/28/18	145	10.1	ND	0.0500	ND	0.1250	1.0400	1.0400	ND	0.0500	0.1050	0.1050
02/28/18 <sub>d</sub>	145	10.1	ND	0.0500	ND	0.1250	1.1200	1.1200	ND	0.0500	0.1440	0.1440
Relative Percent Difference (RPD)			ND		ND		-7.4074		ND		-31.3253	
07/28/18	133	4.0	ND	0.0500	ND	0.1250	0.2490	0.2490	0.2380	0.2380	0.6500	0.6500
07/28/18 <sub>d</sub>	133	4.0	ND	0.0500	ND	0.1250	0.2500	0.2500	0.2350	0.2350	0.6380	0.6380
Relative Percent Difference (RPD)			ND		ND		-0.4008		1.2685		1.8634	
08/29/18	121	4.3	ND	0.0500	ND	0.1250	0.1940	0.1940	ND	0.0500	0.1040	0.1040
08/29/18 <sub>d</sub>	121	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1080	0.1080
Relative Percent Difference (RPD)			ND		ND		118.0328		ND		-3.7736	
09/18/18	187	1.3	ND	0.0500	ND	0.1250	0.5080	0.5080	ND	0.0500	0.3570	0.3570
09/18/18 <sub>d</sub>	187	1.3	ND	0.0500	ND	0.1250	0.5940	0.5940	ND	0.0500	0.2820	0.2820
Relative Percent Difference (RPD)			ND		ND		-15.6080		ND		23.4742	
10/14/18	123	7.0	ND	0.0500	ND	0.1250	0.2730	0.2730	2.7200	2.7200	7.3000	7.3000
10/14/18 <sub>d</sub>	123	7.0	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	
12/07/18	102	1.9	ND	0.0500	ND	0.1250	0.2060	0.2060	ND	0.0500	ND	0.0500
12/07/18 <sub>d</sub>	102	1.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			*		*		*		*		*	

d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
1/1/2018	345	8.7	ND	0.0500	ND	0.1250	0.4340	0.4340	0.1340	0.1340	ND	0.0500
1/3/2018	289	5.1	ND	0.0500	ND	0.1250	0.1280	0.1280	ND	0.0500	ND	0.0500
1/5/2018	71	5.0	*	*	*	*	*	*	*	*	*	*
1/7/2018	119	5.7	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	ND	0.0500
1/9/2018	146	5.6	ND	0.0500	ND	0.1250	1.1000	1.1000	0.2570	0.2570	0.3910	0.3910
1/11/2018	202	8.9	ND	0.0500	ND	0.1250	0.1960	0.1960	ND	0.0500	0.7240	0.7240
1/13/2018	245	6.9	ND	0.0500	ND	0.1250	0.9340	0.9340	1.5400	1.5400	1.7900	1.7900
1/15/2018	89	5.9	ND	0.0500	ND	0.1250	0.1030	0.1030	ND	0.0500	0.1370	0.1370
1/17/2018	311	4.2	ND	0.0500	ND	0.1250	1.2900	1.2900	1.0200	1.0200	0.1850	0.1850
1/19/2018	94	7.9	ND	0.0500	ND	0.1250	0.5730	0.5730	2.6500	2.6500	2.6000	2.6000
1/21/2018	126	7.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
1/23/2018	275	4.0	ND	0.0500	ND	0.1250	0.6400	0.6400	0.4360	0.4360	0.3610	0.3610
1/25/2018	114	6.3	10.5000	10.5000	ND	0.7500	1.2400	1.2400	3.5900	3.5900	2.5100	2.5100
1/27/2018	121	4.4	5.4500	5.4500	ND	0.7500	1.5600	1.5600	1.6800	1.6800	6.9100	6.9100
1/29/2018	341	5.6	ND	0.0500	ND	0.1250	0.8990	0.8990	1.0400	1.0400	ND	0.0500
1/31/2018	131	5.9	ND	0.0500	ND	0.1250	0.3660	0.3660	ND	0.0500	ND	0.0500
2/2/2018	146	8.4	ND	0.0500	ND	0.1250	0.8700	0.8700	0.6390	0.6390	0.6030	0.6030
2/4/2018	197	5.2	*	*	*	*	*	*	*	*	*	*
2/6/2018	102	6.0	ND	0.0500	ND	0.1250	0.2270	0.2270	0.2520	0.2520	1.4000	1.4000
2/8/2018	268	5.0	ND	0.0500	ND	0.1250	0.9460	0.9460	1.0600	1.0600	0.2510	0.2510
2/10/2018	218	3.8	ND	0.0500	ND	0.1250	2.0700	2.0700	0.7500	0.7500	0.2350	0.2350
2/12/2018	248	8.7	ND	0.1000	ND	0.2500	0.9700	0.9700	0.9820	0.9820	ND	0.0500
2/14/2018	206	3.9	ND	0.0500	ND	0.1250	1.6800	1.6800	1.4900	1.4900	0.5790	0.5790
2/16/2018	147	5.1	ND	0.0500	ND	0.1250	0.2400	0.2400	0.1520	0.1520	ND	0.0500
2/18/2018	118	7.0	ND	0.0500	ND	0.1250	0.7060	0.7060	3.4300	3.4300	1.9200	1.9200
2/20/2018	115	9.6	0.3320	0.3320	ND	0.3320	0.1010	0.1010	ND	0.0500	ND	0.0500
2/22/2018	315	6.2	*	*	*	*	*	*	*	*	*	*
2/24/2018	141	8.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
2/26/2018	156	8.2	ND	0.0500	ND	0.1250	0.1620	0.1620	ND	0.0500	ND	0.0500
2/28/2018	145	10.1	ND	0.0500	ND	0.1250	0.4650	0.4650	ND	0.0500	ND	0.0500
3/2/2018	159	8.1	ND	0.0500	ND	0.1250	1.2600	1.2600	1.5700	1.5700	1.6000	1.6000
3/4/2018	105	8.5	*	*	*	*	*	*	*	*	*	*
3/6/2018	211	8.3	ND	0.0500	ND	0.1250	0.8900	0.8900	1.4700	1.4700	0.6650	0.6650
3/8/2018	69	7.6	0.9900	0.9900	ND	0.1250	ND	0.0500	4.6100	4.6100	2.3000	2.3000
3/10/2018	155	6.7	ND	0.0500	ND	0.1250	0.1790	0.1790	ND	0.0500	ND	0.0500
3/12/2018	279	7.4	*	*	*	*	*	*	*	*	*	*
3/14/2018	150	5.1	ND	0.0500	ND	0.1250	1.0800	1.0800	4.8300	4.8300	0.5480	0.5480
3/16/2018	152	6.8	ND	0.0500	ND	0.1250	0.2110	0.2110	ND	0.0500	ND	0.0500
3/18/2018	125	5.4	ND	0.0500	ND	0.1250	0.1480	0.1480	ND	0.0500	ND	0.0500
3/20/2018	287	6.1	ND	0.0500	ND	0.1250	0.7890	0.7890	3.3800	3.3800	0.3810	0.3810
3/22/2018	102	7.8	ND	0.0500	ND	0.1250	0.3950	0.3950	ND	0.0500	ND	0.0500
3/24/2018	146	7.7	ND	0.0500	ND	0.1250	0.1390	0.1390	ND	0.0500	ND	0.0500
3/26/2018	124	10.2	ND	0.0500	ND	0.1250	0.1600	0.1600	ND	0.0500	ND	0.0500
3/28/2018	130	9.2	ND	0.0500	ND	0.1250	0.1480	0.1480	ND	0.0500	ND	0.0500
3/30/2018	126	7.1	ND	0.0500	ND	0.1250	0.2900	0.2900	0.4610	0.4610	0.1430	0.1430
4/1/2018	126	8.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
4/3/2018	140	7.3	ND	0.0500	ND	0.1250	0.1130	0.1130	ND	0.0500	ND	0.0500
4/5/2018	96	5.6	ND	0.0500	ND	0.1250	0.1540	0.1540	1.0500	1.0500	1.2200	1.2200
4/7/2018	331	4.7	ND	0.0500	ND	0.1250	0.2520	0.2520	0.1070	0.1070	ND	0.0500
4/9/2018	32	5.1	2.5800	2.5800	ND	0.1250	ND	0.0500	4.9200	4.9200	2.4400	2.4400
4/11/2018	114	4.4	ND	0.0500	ND	0.1250	0.2320	0.2320	0.2140	0.2140	0.4920	0.4920

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
4/13/2018	142	10.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
4/15/2018	305	3.0	ND	0.0500	ND	0.1250	0.3520	0.1640	ND	0.1640	ND	0.0500
4/17/2018	144	9.7	ND	0.0500	ND	0.1250	0.1650	0.1650	ND	0.0500	ND	0.0500
4/19/2018	48	3.3	ND	0.0500	ND	0.1250	0.6060	0.6060	0.4210	0.4210	0.1940	0.1940
4/21/2018	108	6.4	ND	0.0500	ND	0.1250	0.1840	0.1840	ND	0.0500	ND	0.0500
4/23/2018	243	1.2	ND	0.0500	ND	0.1250	0.2550	2.1000	ND	0.0500	ND	0.0500
4/25/2018	124	3.5	ND	0.0500	ND	0.1250	0.3300	0.3300	0.1980	0.1980	0.3550	0.3550
4/27/2018	336	2.2	ND	0.0500	ND	0.1250	0.5380	2.2300	0.1260	0.1260	0.2050	0.2050
4/29/2018	106	5.5	*	*	*	*	*	*	*	*	*	*
5/1/2018	113	9.8	ND	0.0500	ND	0.1250	0.1050	0.1050	ND	0.0500	ND	0.0500
5/3/2018	125	9.9	ND	0.0500	ND	0.1250	0.1230	0.1230	ND	0.0500	ND	0.0500
5/5/2018	320	3.5	ND	0.0500	ND	0.1250	0.2280	0.2280	ND	0.0500	ND	0.0500
5/7/2018	166	2.7	ND	0.0500	ND	0.1250	0.1160	0.1160	ND	0.0500	ND	0.0500
5/9/2018	126	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
5/11/2018	122	9.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
5/13/2018	115	7.9	*	*	*	*	*	*	*	*	*	*
5/15/2018	125	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
5/17/2018	159	6.0	ND	0.0500	ND	0.1250	0.1320	0.1320	ND	0.0500	ND	0.0500
5/19/2018	121	10.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
5/21/2018	117	3.9	ND	0.0500	ND	0.1250	0.1520	0.1520	0.3380	0.3380	0.8050	0.8050
5/23/2018	96	5.2	*	*	*	*	*	*	*	*	*	*
5/25/2018	149	3.0	ND	0.0500	ND	0.1250	0.1160	0.1160	ND	0.0500	ND	0.0500
5/27/2018	146	4.9	*	*	*	*	*	*	*	*	*	*
5/29/2018	144	5.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1290	0.1290
5/31/2018	128	8.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/2/2018	148	6.7	ND	0.0500	ND	0.1250	0.1020	0.1020	ND	0.0500	0.1390	0.1390
6/4/2018	169	4.4	ND	0.0500	ND	0.1250	0.1170	0.1170	0.1750	0.1750	0.1230	0.1230
6/6/2018	137	6.7	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/8/2018	121	7.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/10/2018	140	8.8	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	ND	0.0500
6/12/2018	126	8.8	ND	0.0500	ND	0.1250	0.1120	0.1120	ND	0.0500	ND	0.0500
6/14/2018	122	6.9	ND	0.0500	ND	0.1250	0.1490	0.1490	ND	0.0500	ND	0.0500
6/16/2018	114	8.9	*	*	*	*	*	*	*	*	*	*
6/18/2018	99	4.8	ND	0.0500	ND	0.1250	0.1120	0.1120	0.6960	0.6960	1.8400	1.8400
6/20/2018	105	5.3	ND	0.0500	ND	0.1250	0.1230	0.1230	0.3960	0.3960	0.6200	0.6200
6/22/2018	151	4.9	ND	0.0500	ND	0.1250	0.1560	0.1560	ND	0.0500	0.1030	0.1030
6/24/2018	131	8.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/26/2018	123	7.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/28/2018	143	7.0	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
6/30/2018	137	8.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/2/2018	140	5.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/4/2018	130	2.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/6/2018	208	0.7	ND	0.0500	ND	1.2500	ND	0.5000	ND	0.5000	10.3000	10.3000
7/8/2018	161	2.8	ND	0.0500	ND	0.1250	0.3180	0.3180	0.1040	0.1040	0.3430	0.3430
7/10/2018	121	4.6	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	ND	0.0500
7/12/2018	146	4.3	ND	0.0500	ND	0.1250	0.3650	0.3650	ND	0.0500	ND	0.0500
7/14/2018	138	6.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
7/16/2018	153	5.9	ND	0.0500	ND	0.1250	0.1080	0.1080	ND	0.0500	ND	0.0500
7/18/2018	164	5.6	ND	0.0500	ND	0.1250	0.1850	0.1850	ND	0.0500	ND	0.0500
7/20/2018	163	5.9	ND	0.0500	ND	0.1250	0.4950	0.4950	ND	0.0500	0.1720	0.1720
7/22/2018	176	5.7	ND	0.0500	ND	0.1250	0.4890	0.4890	ND	0.0500	0.1090	0.1090

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**PC PLANT SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
7/24/2018	145	3.7	ND	0.0500	ND	0.1250	0.1390	0.0500	ND	0.0500	ND	0.0500
7/26/2018	143	3.1	ND	0.0500	ND	0.1250	0.2550	0.0500	ND	0.0500	0.1000	0.1000
7/28/2018	133	4.0	ND	0.0500	ND	0.1250	0.1870	0.0500	ND	0.0500	0.1050	0.1050
7/30/2018	156	3.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/1/2018	129	1.1	ND	0.0500	ND	0.1250	0.3900	0.0500	1.2300	1.2300	ND	0.0500
8/2/2018	107	4.1	ND	0.0500	ND	0.1250	0.3420	0.0500	0.7380	0.7380	0.3580	0.3580
8/4/2018	101	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/7/2018	122	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/9/2018	138	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/11/2018	149	4.1	*	*	*	*	*	*	*	*	0.1170	0.1170
8/13/2018	134	7.7	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/15/2018	142	6.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/17/2018	135	6.0	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/19/2018	158	7.4	*	*	*	*	*	*	*	*	*	*
8/21/2018	155	5.4	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/23/2018	136	3.9	*	*	*	*	*	*	*	*	*	*
8/25/2018	125	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/27/2018	124	6.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
8/29/2018	121	4.3	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	0.1120	0.1120
8/31/2018	106	4.0	*	*	*	*	*	*	*	*	*	*
9/2/2018	106	2.1	ND	0.0500	ND	0.1250	ND	0.0500	0.1700	0.1700	0.3080	0.3080
9/4/2018	69	4.6	ND	0.0500	ND	0.1250	0.1090	0.0500	1.6600	1.6600	1.9400	1.9400
9/6/2018	91	1.8	ND	0.0500	ND	0.1250	0.1680	0.0500	0.6980	0.6980	0.6670	0.6670
9/8/2018	120	4.8	ND	0.0500	ND	0.1250	0.1760	0.0500	0.1070	0.1070	0.1150	0.1150
9/10/2018	40	3.7	ND	0.0500	ND	0.1250	0.1080	0.0500	1.5300	1.5300	3.5800	3.5800
9/12/2018	60	4.6	ND	0.0500	ND	0.1250	0.1600	0.0500	2.0500	2.0500	3.3800	3.3800
9/14/2018	41	6.1	ND	0.0500	ND	0.1250	0.1550	0.0500	2.1800	2.1800	5.1700	5.1700
9/16/2018	122	1.9	ND	0.0500	ND	0.1250	0.2860	0.0500	0.5470	0.5470	0.8670	0.8670
9/18/2018	187	1.3	ND	0.0500	ND	0.1250	0.1320	0.0500	ND	0.0500	0.1420	0.1420
9/20/2018	121	5.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
9/22/2018	204	2.9	ND	0.0500	ND	0.1250	0.1510	0.0500	ND	0.0500	ND	0.0500
9/24/2018	115	4.5	ND	0.0500	ND	0.1250	0.1780	0.0500	ND	0.0500	ND	0.0500
9/26/2018	132	2.4	ND	0.0500	ND	0.1250	0.1510	0.0500	0.4370	0.4370	0.8060	0.8060
9/28/2018	62	2.9	ND	0.0500	ND	0.1250	ND	0.0500	1.6100	1.6100	1.9400	1.9400
9/30/2018	65	2.2	ND	0.0500	ND	0.1250	0.2190	0.0500	2.1300	2.1300	2.8200	2.8200
10/2/2018	92	4.7	ND	0.0500	ND	0.1250	ND	0.0500	1.2900	1.2900	2.1200	2.1200
10/4/2018	111	4.8	ND	0.0500	ND	1.2500	1.0900	0.0500	ND	0.0500	ND	0.0500
10/6/2018	112	6.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
10/8/2018	108	7.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
10/10/2018	344	3.8	ND	0.0500	ND	0.1250	0.7510	0.0500	0.9960	0.9960	0.9980	0.9980
10/12/2018	88	5.1	ND	0.0500	ND	0.1250	0.4150	0.0500	5.0600	5.0600	17.7000	17.7000
10/14/2018	123	7.0	ND	0.0500	ND	0.1250	0.2210	0.0500	ND	0.0500	ND	0.0500
10/16/2018	317	6.3	ND	0.0500	ND	0.1250	0.2080	0.0500	ND	0.0500	ND	0.0500
10/18/2018	343	4.9	ND	0.0500	ND	0.1250	0.6560	0.0500	1.0100	1.0100	ND	0.0500
10/20/2018	345	6.8	ND	0.0500	ND	0.1250	0.3600	0.0500	1.2300	1.2300	ND	0.0500
10/22/2018	351	4.8	ND	0.0500	ND	0.1250	0.3050	0.0500	4.7800	4.7800	0.1290	0.1290
10/24/2018	5	3.9	*	*	*	*	*	*	*	*	*	*
10/26/2018	249	1.5	ND	0.0500	ND	0.1250	0.2520	0.0500	0.6970	0.6970	ND	0.0500
10/28/2018	179	2.8	ND	0.0500	ND	0.1250	0.2960	0.0500	ND	0.0500	ND	0.0500
10/30/2018	137	6.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
11/1/2018	324	6.2	ND	0.0500	ND	0.1250	0.2610	0.0500	1.0300	1.0300	ND	0.0500

# FORMOSA VOC CANISTER ANALYSIS

## 4th QUARTER 2018

### PC PLANT SITE

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
11/3/2018	136	6.7	0.3310	0.3310	ND	0.1250	0.1010	0.1010	ND	0.0500	ND	0.0500
11/5/2018	158	4.9	0.3430	0.3430	ND	0.1250	0.1660	0.1660	0.4450	0.4450	0.7320	0.7320
11/7/2018	157	4.8	0.3760	0.3760	ND	0.1250	0.1450	0.1450	ND	0.0500	ND	0.0500
11/9/2018	348	10.2	ND	0.0500	0.2930	0.2930	0.7920	0.7920	1.3200	1.3200	0.3510	0.3510
11/11/2018	24	6.2	ND	0.0500	ND	0.1250	0.4330	0.4330	0.8340	0.8340	0.3180	0.3180
11/13/2018	321	7.6	ND	0.0500	ND	0.1250	0.2450	0.2450	0.1040	0.1040	ND	0.0500
11/15/2018	112	2.9	ND	0.0500	ND	0.1250	0.3090	0.3090	0.7050	0.7050	0.8120	0.8120
11/17/2018	88	4.5	*	*	*	*	*	*	*	*	*	*
11/19/2018	344	7.0	*	*	*	*	*	*	*	*	*	*
11/21/2018	22	4.8	ND	0.0500	ND	0.1250	0.4500	0.4500	1.3400	1.3400	1.0700	1.0700
11/23/2018	46	0.4	*	*	*	*	*	*	*	*	*	*
11/25/2018	316	3.0	ND	0.0500	ND	0.1250	0.2050	0.2050	ND	0.0500	ND	0.0500
11/27/2018	85	1.9	ND	0.0500	ND	0.1250	0.2100	0.2100	ND	0.0500	ND	0.0500
11/29/2018	145	3.2	ND	0.0500	0.2780	0.2780	0.1770	0.1770	ND	0.0500	0.3070	0.3070
12/1/2018	240	2.7	ND	0.0500	ND	0.1250	0.1930	0.1930	ND	0.0500	0.1400	0.1400
12/4/2018	348	5.8	ND	0.0500	0.2780	0.2780	0.8490	0.8490	0.6290	0.6290	0.6660	0.6660
12/6/2018	46	5.0	ND	0.0500	ND	0.1250	0.3790	0.3790	1.8800	1.8800	5.1400	5.1400
12/7/2018	102	1.9	ND	0.0500	ND	0.1250	0.3240	0.3240	0.1260	0.1260	0.2680	0.2680
12/9/2018	323	6.4	*	*	*	*	*	*	*	*	*	*
12/11/2018	101	3.0	ND	0.0500	ND	0.1250	0.2460	0.2460	0.1050	0.1050	0.3330	0.3330
12/13/2018	235	6.7	ND	0.0500	ND	0.1250	0.1550	0.1550	ND	0.0500	ND	0.0500
12/15/2018	284	5.4	*	*	*	*	*	*	*	*	*	*
12/17/2018	129	1.7	ND	0.0500	ND	0.1250	0.5460	0.5460	ND	0.0500	0.2160	0.2160
12/19/2018	15	1.7	ND	0.0500	ND	0.1250	0.2210	0.2210	0.5950	0.5950	3.3900	3.3900
12/21/2018	240	3.0	ND	0.0500	ND	0.1250	0.2790	0.2790	ND	0.0500	0.2230	0.2230
12/23/2018	323	3.2	ND	0.0500	0.2910	0.2910	0.7380	0.7380	0.4220	0.4220	ND	0.0500
12/25/2018	106	5.9	ND	0.0500	ND	0.1250	0.2070	0.2070	0.1530	0.1530	0.8980	0.8980
12/27/2018	128	1.7	ND	0.0500	ND	0.1250	0.2390	0.2390	0.3100	0.3100	1.5000	1.5000
12/29/2018	346	8.6	ND	0.0500	ND	0.1250	0.2920	0.2920	0.3400	0.3400	ND	0.0500
12/31/2018	254	3.2	0.7080	0.7080	ND	0.1250	0.3300	0.3300	ND	0.0500	ND	0.0500

	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	21.2780	31.7780	1.4720	24.8470	47.4090	49.8590	91.2340	96.6340	107.0660	111.3660
Rolling Year Average	0.1305	0.1950	0.0090	0.1524	0.2909	0.3059	0.5597	0.5928	0.6568	0.6832
Annual Average	0.1305	0.1950	0.0090	0.1524	0.2909	0.3059	0.5597	0.5928	0.6568	0.6832

Number of theoretical sample periods

Number of non-operational sample periods

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

163.0000

TCEQ Air Monitoring Comparison Values (ppb)			Investigation Limit (ppb)
Chemical	ST	LT	
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1, 3 Butadiene	1,700	9	25

## DUPLICATE SAMPLE SCHEDULE

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
01/09/18	146	5.6	ND	0.0500	ND	0.1250	1.1000	0.2570	0.2570	0.3910	0.3910	
01/09/18 <sub>a</sub>	146	5.6	ND	0.0500	ND	0.1250	1.2000	0.2780	0.2780	0.6330	0.6330	
Relative Percent Difference (RPD)			ND		ND	-8.6957		-7.8505		-47.2656		
01/15/18	89	5.9	ND	0.0500	ND	0.1250	0.1030	ND	0.0500	0.1370	0.1370	
01/15/18 <sub>a</sub>	89	5.9	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)			*		*	*	*	*	*	*	*	
01/23/18	275	4.0	ND	0.0500	ND	0.1250	0.6400	0.4360	0.4360	0.3610	0.3610	
01/23/18 <sub>a</sub>	275	4.0	ND	0.5000	ND	0.1250	0.6770	0.9880	0.9880	0.3680	0.3680	
Relative Percent Difference (RPD)			ND		ND	-5.6188		-77.5281		-1.9204		
01/27/18	121	4.4	5.4500	5.4500	ND	0.7500	1.5600	1.6800	1.6800	6.9100	6.9100	
01/27/18 <sub>a</sub>	121	4.4	3.5900	3.5900	ND	0.7500	0.7840	0.9780	0.9780	4.5200	4.5200	
Relative Percent Difference (RPD)			41.1504		ND	66.2116		52.8217		41.8198		
02/02/18	146	8.4	ND	0.0500	ND	0.1250	0.8700	0.6390	0.6390	0.6030	0.6030	
02/02/18 <sub>a</sub>	146	8.4	ND	0.0500	ND	0.1250	1.2200	ND	0.0500	ND	0.0500	
Relative Percent Difference (RPD)			ND		ND	-33.4928		170.9724		169.3721		
02/10/18	218	3.8	ND	0.0500	ND	0.1250	2.0700	0.7500	0.7500	0.2350	0.2350	
02/10/18 <sub>a</sub>	218	3.8	ND	0.0500	ND	0.1250	1.4800	0.7450	0.7450	0.1480	0.1480	
Relative Percent Difference (RPD)			ND		ND	33.2394		0.6689		45.4308		
02/14/18	206	3.9	ND	0.0500	ND	0.1250	1.6800	1.4900	1.4900	0.5790	0.5790	
02/14/18 <sub>a</sub>	206	3.9	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)			*		*	*	*	*	*	*	*	
02/24/18	141	8.8	ND	0.0500	ND	0.1250	0.0500	ND	0.0500	ND	0.0500	
02/24/18 <sub>a</sub>	141	8.8	ND	0.0500	ND	0.1250	0.9610	1.5000	1.5000	0.4750	0.4750	
Relative Percent Difference (RPD)			ND		ND	-180.2176		-187.0968		-161.9048		
03/04/18	105	8.5	*	*	*	*	*	*	*	*	*	
03/04/18 <sub>a</sub>	105	8.5	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)			*		*	*	*	*	*	*	*	
03/10/18	155	6.7	ND	0.0500	ND	0.1250	0.1790	ND	0.0500	ND	0.0500	
03/10/18 <sub>a</sub>	155	6.7	*	*	*	*	*	*	*	*	*	
Relative Percent Difference (RPD)			*		*	*	*	*	*	*	*	
03/16/18	152	6.8	ND	0.0500	ND	0.1250	0.2110	ND	0.0500	ND	0.0500	
03/16/18 <sub>a</sub>	152	6.8	ND	0.0500	ND	0.1250	0.1620	ND	0.0500	ND	0.0500	
Relative Percent Difference (RPD)			ND		ND	26.2735		ND		ND		
03/22/18	102	7.8	ND	0.0500	ND	0.1250	0.3950	ND	0.0500	ND	0.0500	
03/22/18 <sub>a</sub>	102	7.8	ND	0.0500	ND	0.1250	0.3660	ND	0.0500	ND	0.0500	
Relative Percent Difference (RPD)			ND		ND	7.6216		ND		ND		
04/03/18	140	7.3	ND	0.0500	ND	0.1250	0.1130	ND	0.0500	ND	0.0500	
04/03/18 <sub>a</sub>	140	7.3	ND	0.0500	ND	0.1250	0.1650	ND	0.0500	ND	0.0500	
Relative Percent Difference (RPD)			ND		ND	-37.4101		ND		ND		
04/09/18	32	5.1	2.5800	2.5800	ND	0.1250	0.0500	4.9200	4.9200	2.4400	2.4400	
04/09/18 <sub>a</sub>	32	5.1	*	*	*	*	*	*	*	*	*	

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - PC SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Relative Percent Difference (RPD)												
04/17/18	144	9.7	ND	0.5000	ND	0.1250	0.1650	0.1650	ND	0.0500	ND	0.0500
04/17/18 <sub>a</sub>	144	9.7	ND	0.5000	ND	0.1250	0.1180	0.1180	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
04/21/18	108	6.4	ND	0.0500	ND	0.1250	0.1840	0.1840	ND	0.0500	ND	0.0500
04/21/18 <sub>a</sub>	108	6.4	ND	0.0500	ND	0.1250	0.1880	0.1880	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
04/27/18	336	2.2	ND	0.0500	ND	0.1250	0.5380	0.5380	2.2300	2.2300	0.2050	0.2050
04/27/18 <sub>a</sub>	336	2.2	ND	0.0500	ND	0.1250	0.5740	0.5740	2.8200	2.8200	0.1990	0.1990
Relative Percent Difference (RPD)												
05/03/18	125	9.9	ND	0.0500	ND	0.1250	0.1230	0.1230	ND	0.0500	ND	0.0500
05/03/18 <sub>a</sub>	125	9.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)												
05/11/18	122	9.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
05/11/18 <sub>a</sub>	122	9.1	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
05/15/18	125	5.6	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
05/15/18 <sub>a</sub>	125	5.6	ND	0.0500	ND	0.1250	0.1410	0.1410	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
05/31/18	128	8.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
05/31/18 <sub>a</sub>	128	8.8	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
06/08/18	121	7.2	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
06/08/18 <sub>a</sub>	121	7.2	ND	0.0500	ND	0.1250	0.1370	0.1370	ND	0.0500	ND	2.0000
Relative Percent Difference (RPD)												
06/14/18	122	6.9	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
06/14/18 <sub>a</sub>	122	6.9	ND	0.0500	ND	0.1250	0.1860	0.1860	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)												
06/20/18	105	5.3	ND	0.0500	ND	0.1250	0.1230	0.1230	0.3960	0.3960	0.6200	0.6200
06/20/18 <sub>a</sub>	105	5.3	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)												
06/26/18	123	7.5	ND	0.0500	ND	0.1250	ND	0.0500	ND	0.0500	ND	0.0500
06/26/18 <sub>a</sub>	123	7.5	ND	0.1000	ND	0.2500	ND	0.1000	ND	0.1000	ND	0.1000
Relative Percent Difference (RPD)												
10/04/18	111	4.8	ND	0.5000	ND	1.2500	1.0900	1.0900	ND	0.5000	ND	0.5000
10/04/18 <sub>a</sub>	111	4.8	ND	0.5000	ND	1.2500	0.1110	0.1110	ND	0.5000	ND	9.4900
Relative Percent Difference (RPD)												
10/10/18	344	3.8	ND	0.0500	ND	0.1250	0.7510	0.7510	0.9960	0.9960	0.9980	0.9980
10/10/18 <sub>a</sub>	344	3.8	ND	0.0500	ND	0.1250	0.8850	0.8850	0.9630	0.9630	0.9330	0.9330
Relative Percent Difference (RPD)												
10/16/18	317	6.3	ND	0.0500	ND	0.1250	0.2080	0.2080	ND	0.0500	ND	0.0500

**FORMOSA VOC CANISTER ANALYSIS**  
**4th QUARTER 2018**  
**POINT COMFORT - PC SITE**  
**DUPLICATE SAMPLE SCHEDULE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3-BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
10/16/18 <sub>d</sub>	317	6.3	ND	0.5000	ND	0.1250	0.2710	0.2710	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND									
10/22/18	351	4.8	ND	0.0500	ND	0.1250	0.3050	0.3050	4.7800	4.7800	0.1290	0.1290
10/22/18 <sub>d</sub>	351	4.8	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
10/28/18	179	2.8	ND	0.0500	ND	0.1250	0.2960	0.2960	ND	0.0500	ND	0.0500
10/28/18 <sub>d</sub>	179	2.8	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
11/03/18	136	6.7	0.3310	0.3310	ND	0.1250	0.1010	0.1010	ND	0.0500	ND	0.0500
11/03/18 <sub>d</sub>	136	6.7	0.3360	0.3360	0.4800	0.4800	ND	0.0500	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			-1.4993									
11/11/18	24	6.2	ND	0.0500	ND	0.1250	0.4330	0.4330	0.8340	0.8340	0.3180	0.3180
11/11/18 <sub>d</sub>	24	6.2	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
11/17/18	88	4.5	*	*	*	*	*	*	*	*	*	*
11/17/18 <sub>d</sub>	88	4.5	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
11/23/18	46	0.4	*	*	*	*	*	*	*	*	*	*
11/23/18 <sub>d</sub>	46	0.4	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
11/29/18	145	3.2	ND	0.0500	0.2780	0.2780	0.1770	0.1770	ND	0.0500	0.3070	0.3070
11/29/18 <sub>d</sub>	145	3.2	ND	0.0500	0.2940	0.2940	0.2170	0.2170	ND	0.0500	0.3340	0.3340
Relative Percent Difference (RPD)			ND									
12/07/18	102	1.9	ND	0.0500	ND	0.1250	0.3240	0.3240	0.1260	0.1260	0.2680	0.2680
12/07/18 <sub>d</sub>	102	1.9	ND	0.0500	ND	0.1250	0.2100	0.2100	0.6580	0.6580	0.6510	0.6510
Relative Percent Difference (RPD)			ND									
12/13/18	235	6.7	ND	0.0500	ND	0.1250	0.1550	0.1550	ND	0.0500	ND	0.0500
12/13/18 <sub>d</sub>	235	6.7	ND	0.0500	ND	0.1250	0.1760	0.1760	ND	0.0500	ND	0.0500
Relative Percent Difference (RPD)			ND									
12/25/18	106	5.9	ND	0.0500	ND	0.1250	0.2070	0.2070	0.1530	0.1530	0.8980	0.8980
12/25/18 <sub>d</sub>	106	5.9	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									
12/31/18	254	3.2	0.7080	0.7080	ND	0.1250	0.3200	0.3200	ND	0.0500	ND	0.0500
12/31/18 <sub>d</sub>	254	3.2	*	*	*	*	*	*	*	*	*	*
Relative Percent Difference (RPD)			ND									

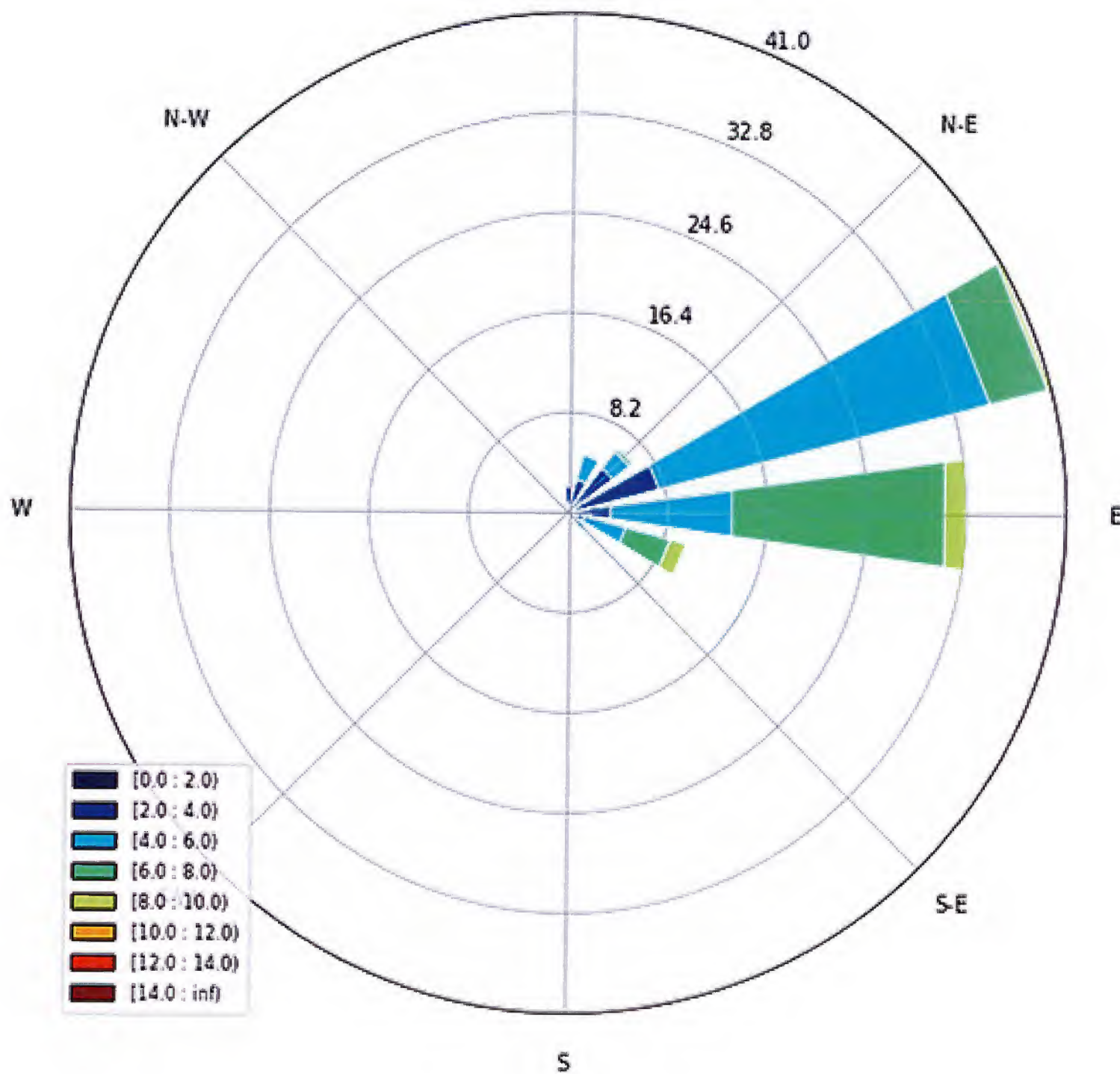
d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)

\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

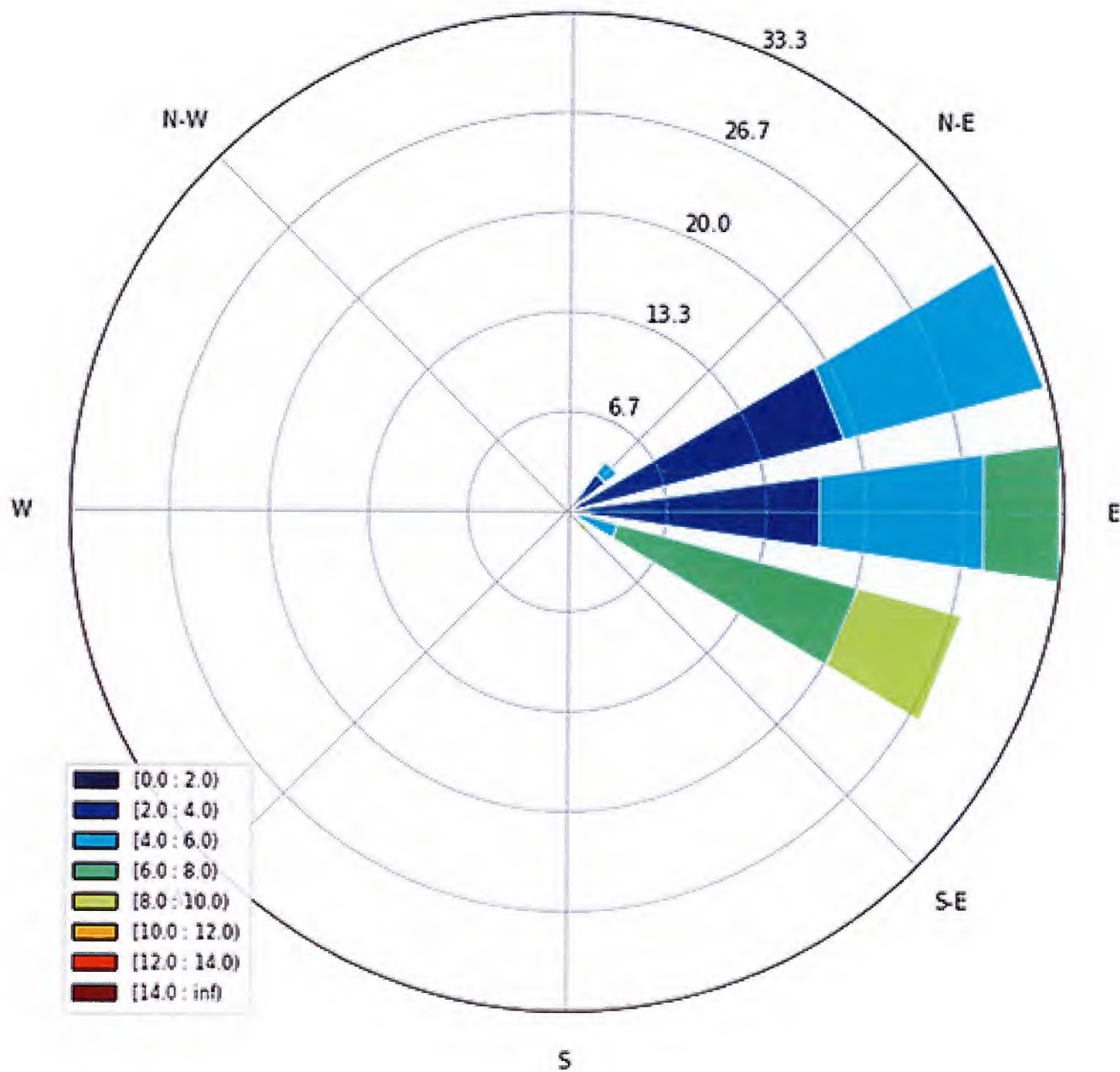
**Summary of Non-operational Periods  
4th QUARTER 2018  
Point Comfort SUMMA Canister System**

SUMMA Site	Date (s)	Description of Problem	Corrective Action
City Hall & Formosa Training Complex	10/6/18	Samples did not run due unknown reasons.	AECOM was unable to verify the cause. Next run was successful.
PC	10/24/18	Voided sample due to low pressure.	Adjusted flow controller to decrease amount sampled.
Formosa Training Complex	10/26/18	Sample leaked below 25" prior to run.	
City Hall, Formosa Training Complex, & Park	11/1/18	No SUMMA cans available.	More cans are in the process of being ordered.
PC, City Hall & Park	11/17/18	Sample did not run due to connectivity issues	Cycled power supply. Connectivity was restored.
PC	11/23/18	No SUMMA cans available.	More cans are in the process of being ordered.
Formosa Training Complex	12/7/18	Voided sample due to low pressure.	Adjusted flow controller to decrease amount sampled.
PC	12/9/18	Voided sample due to low pressure.	Adjusted flow controller to decrease amount sampled.
Formosa Training Complex	12/15/18	Sample leaked below 25" prior to run.	
City Hall, Formosa Training Complex, & Park	12/25/18	No SUMMA cans available.	More cans are in the process of being ordered.

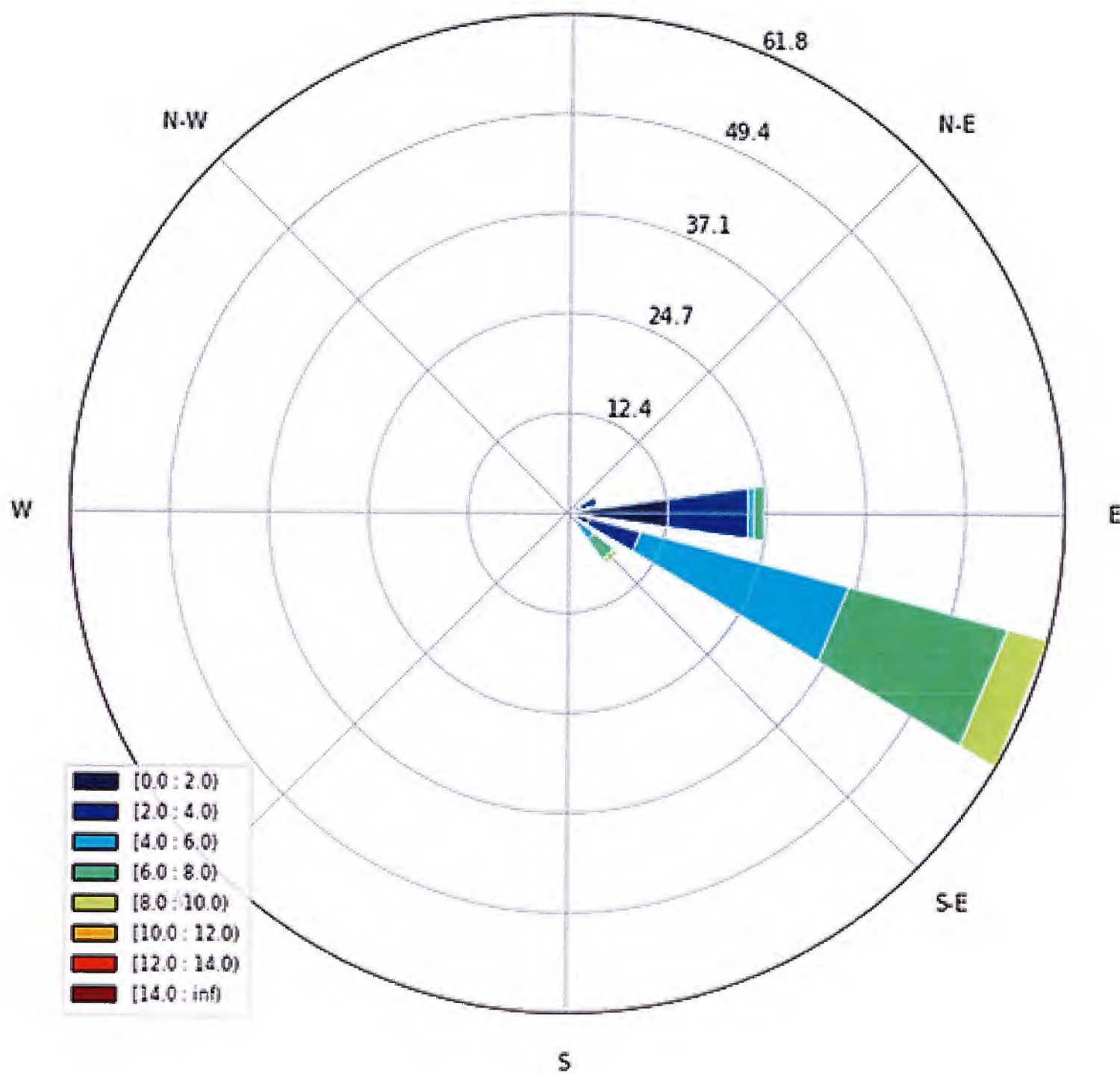
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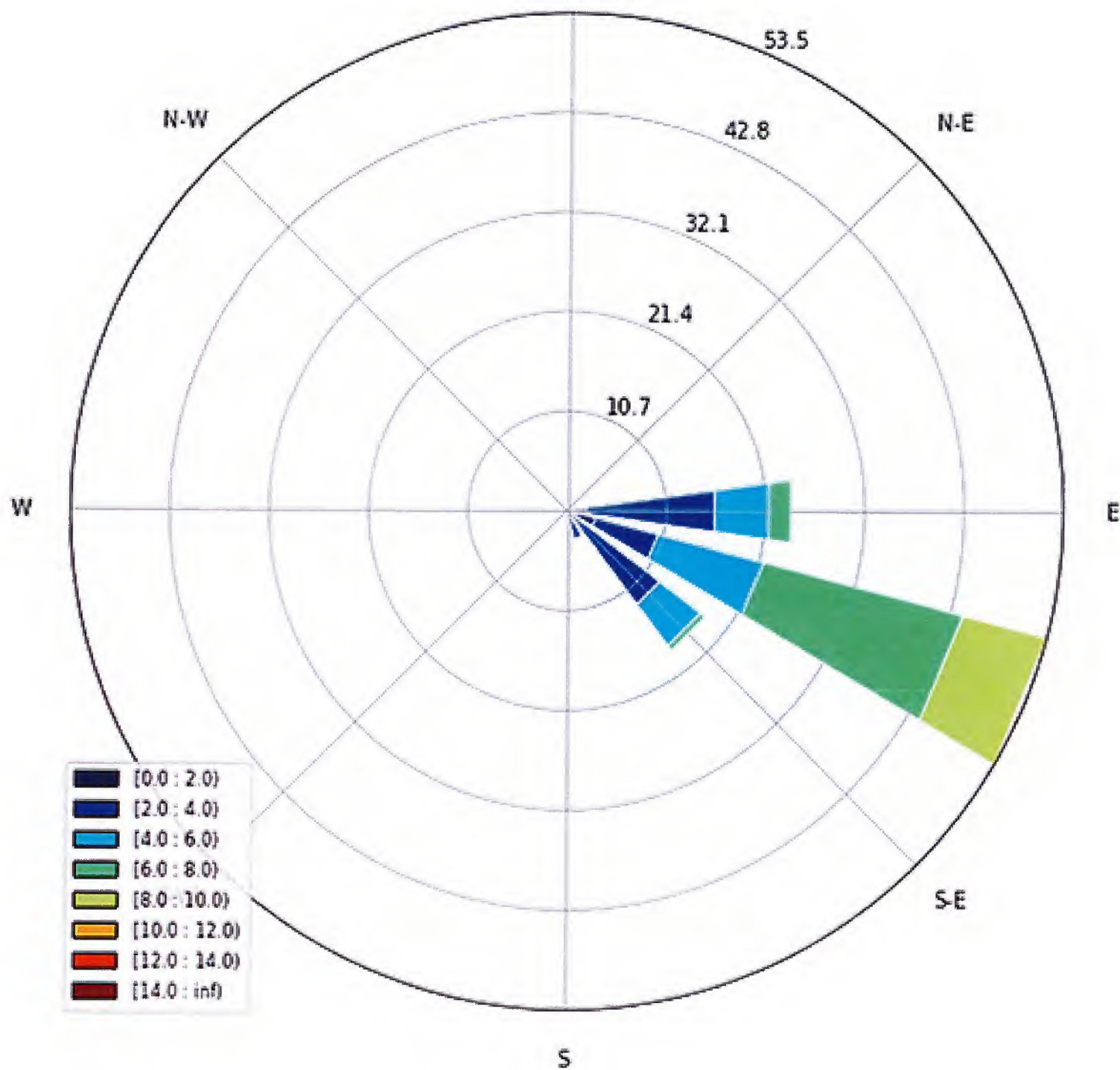
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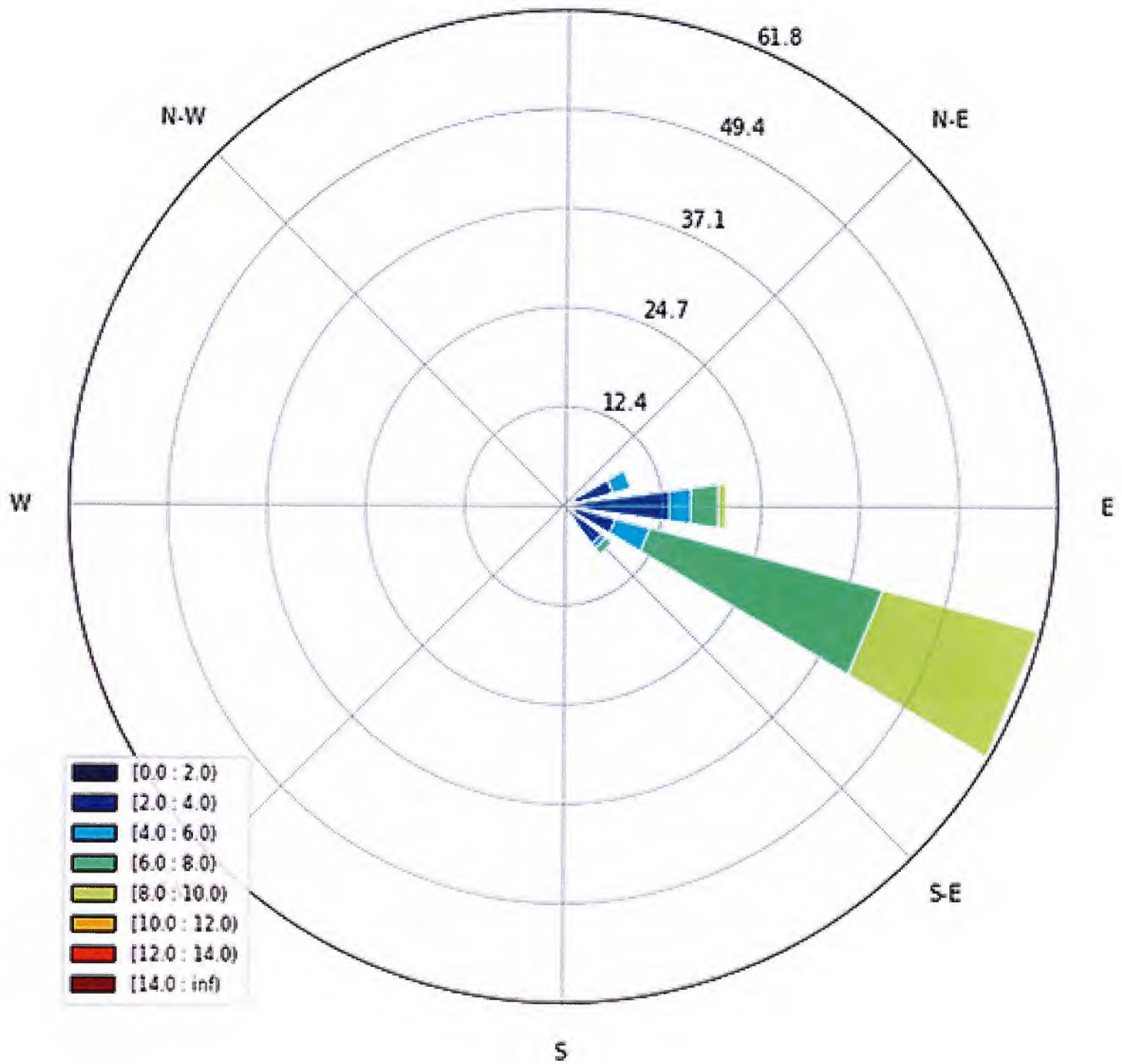
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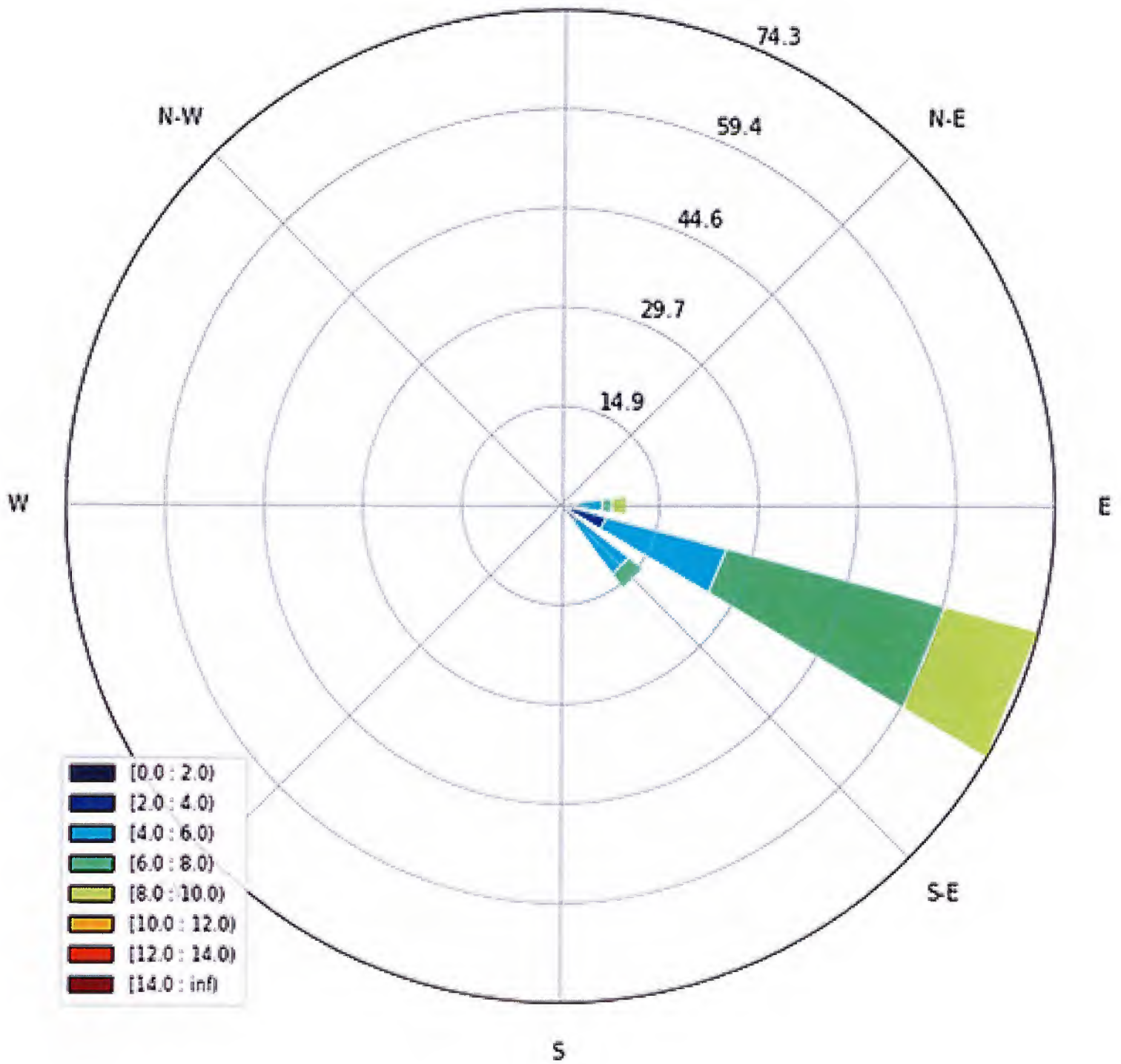
FPC: Oct 4 2018



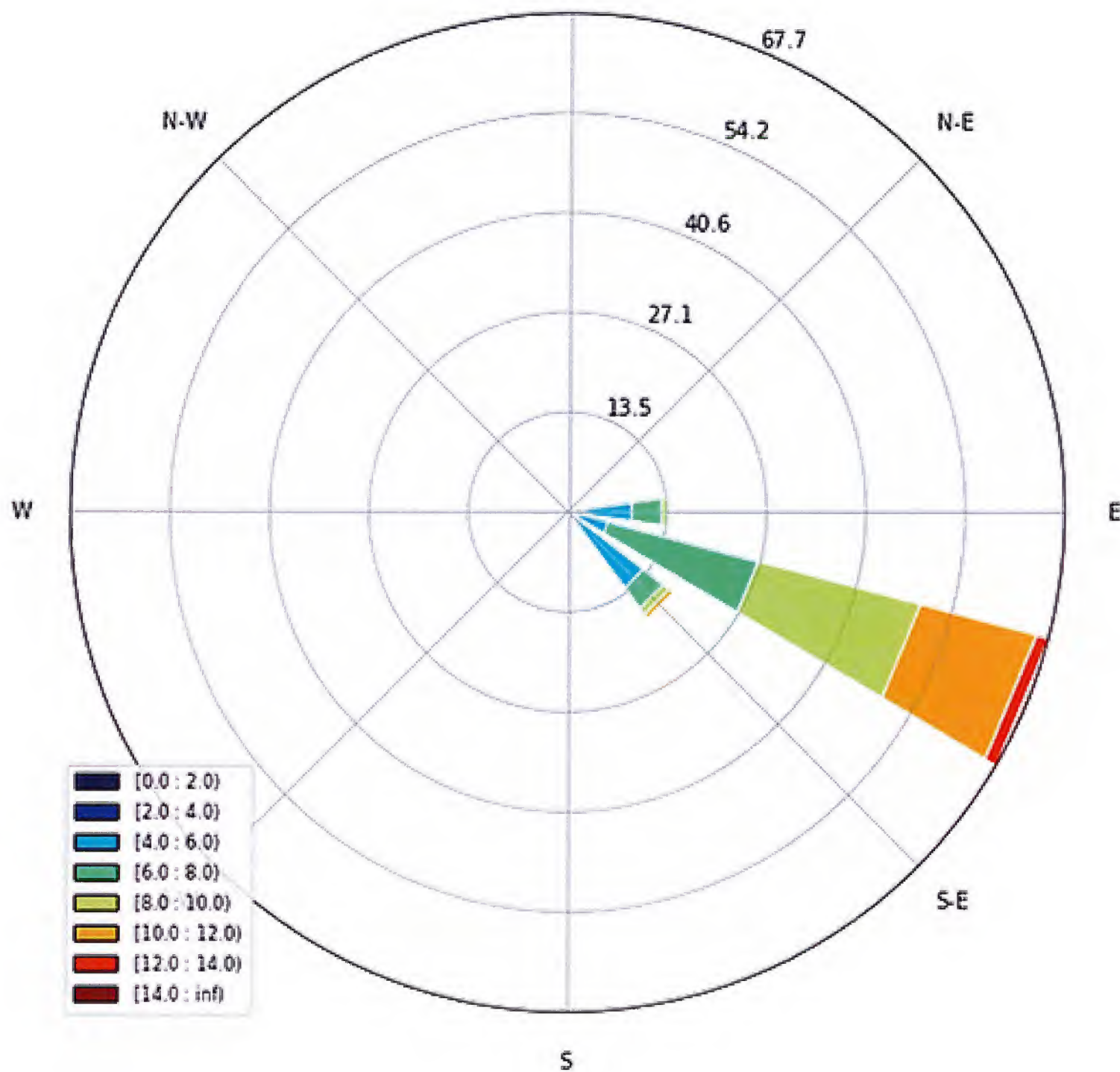
FPC: Oct 5 2018



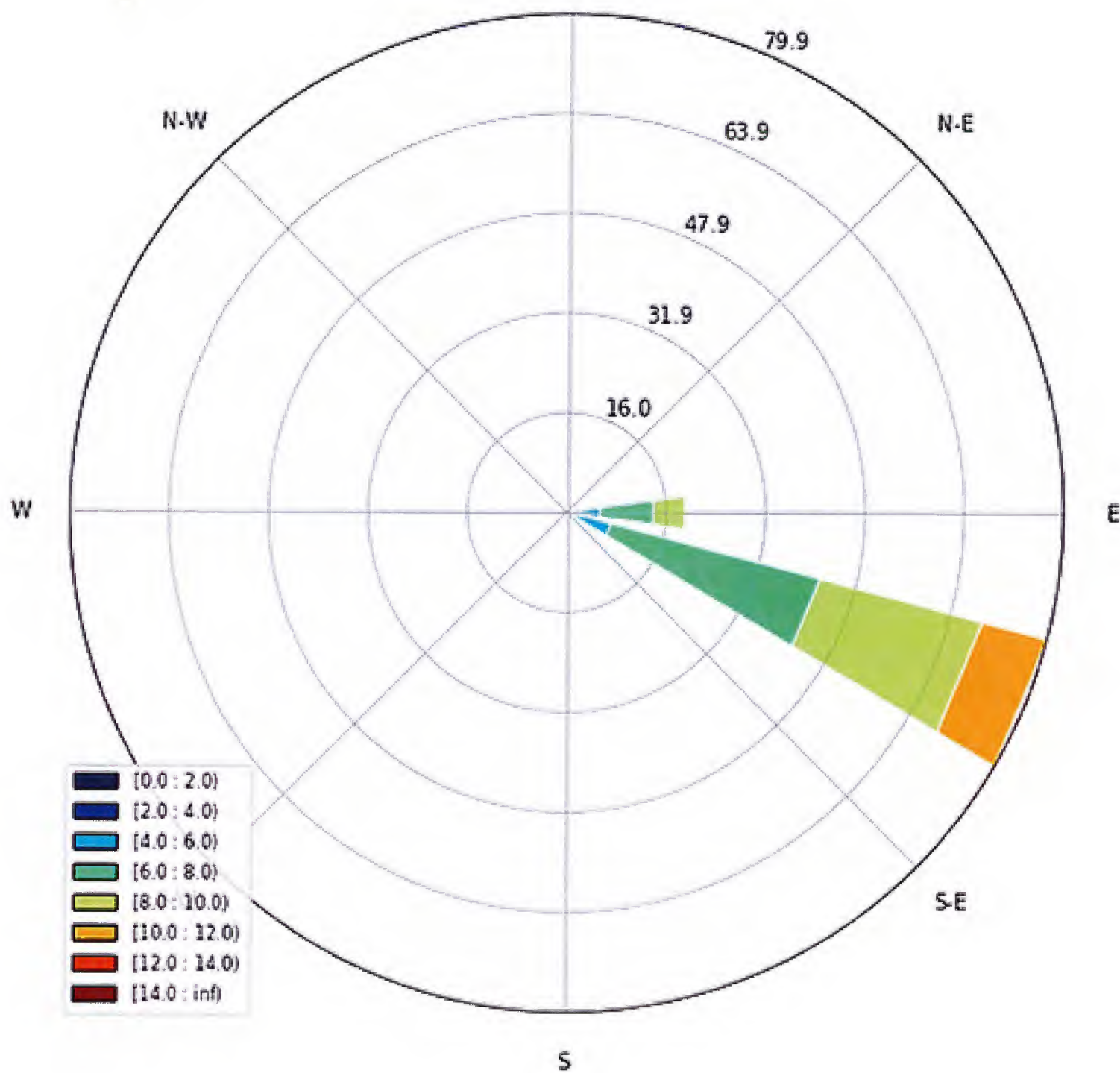
FPC: Oct 6 2018



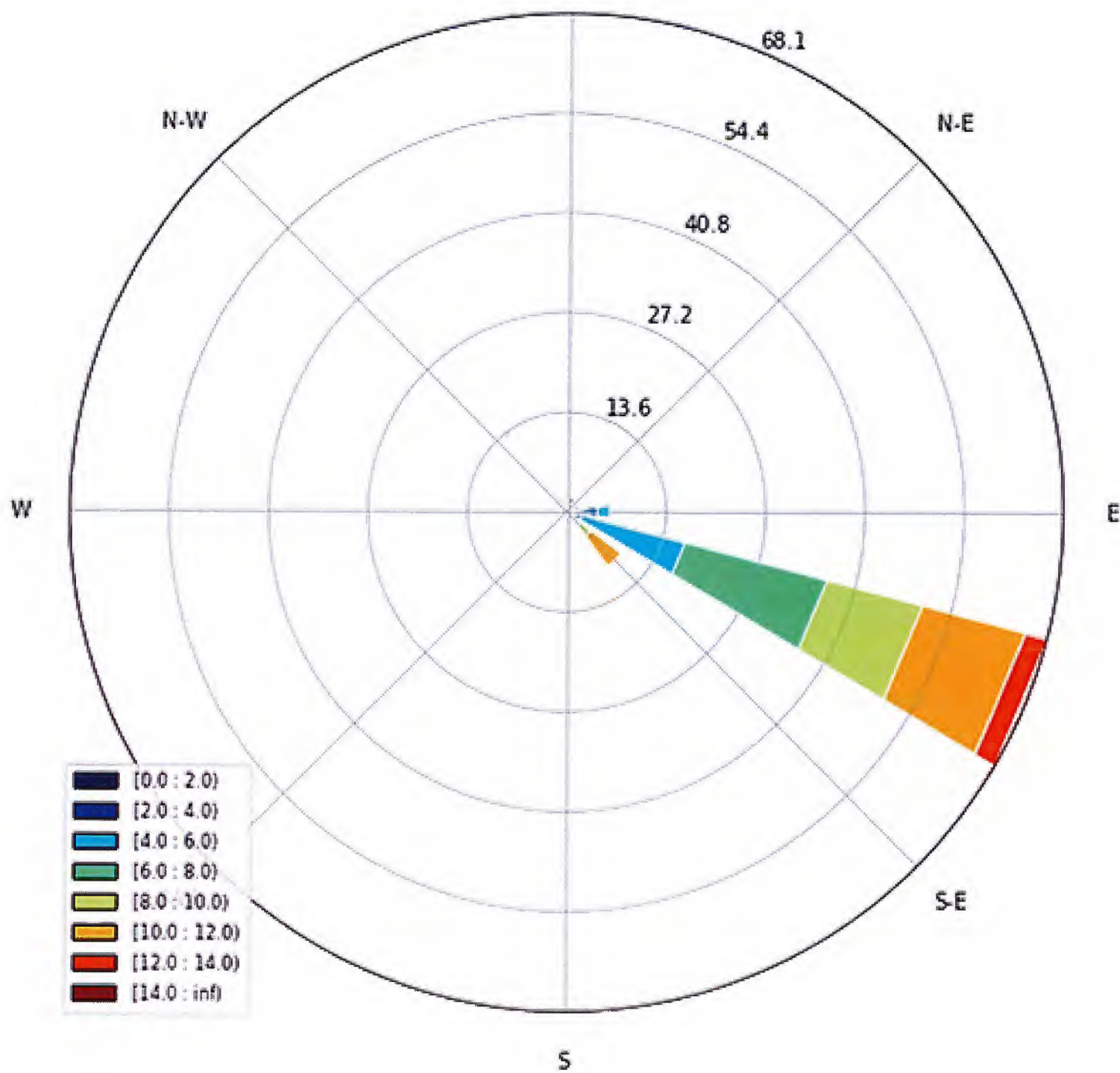
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M



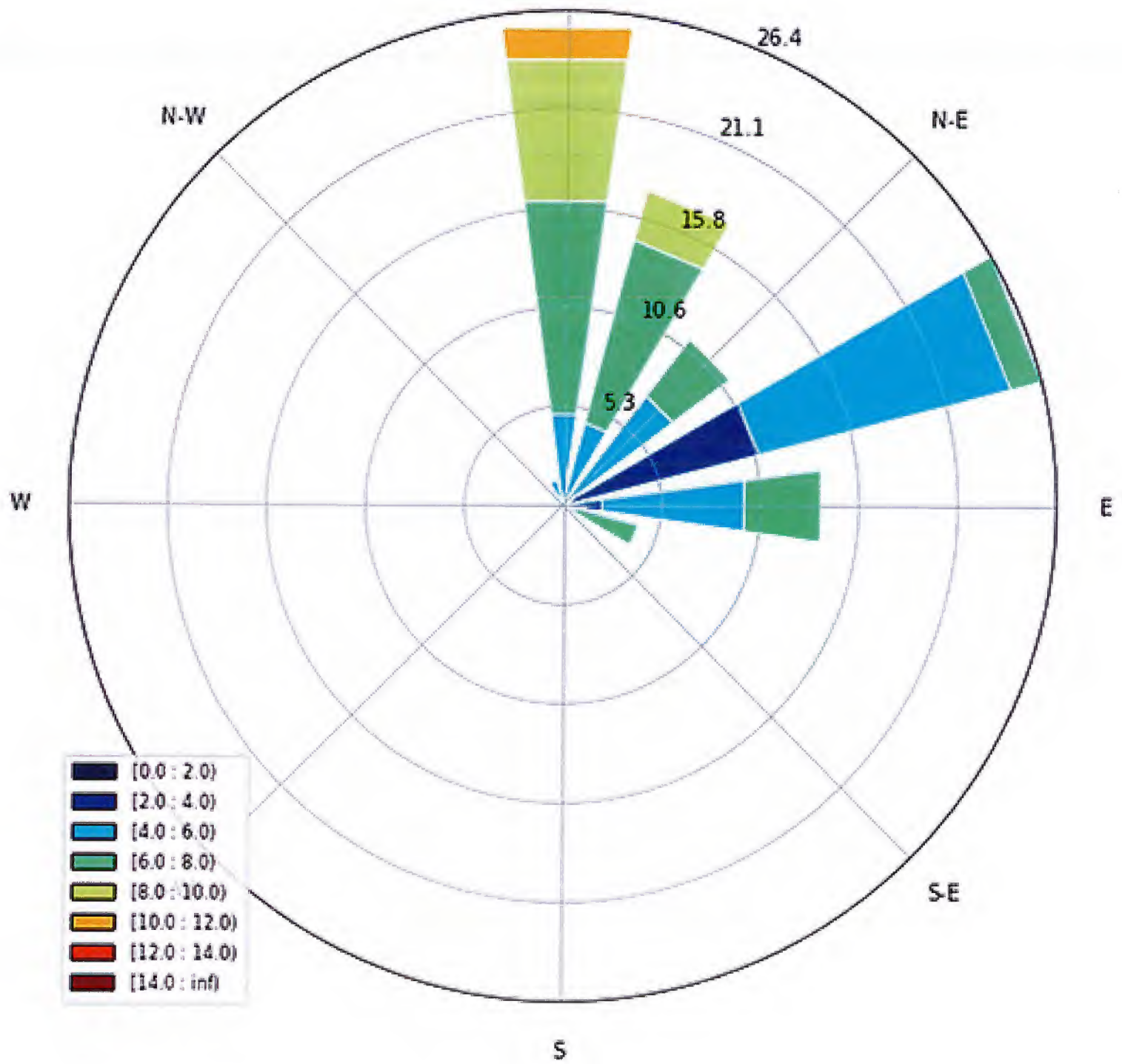
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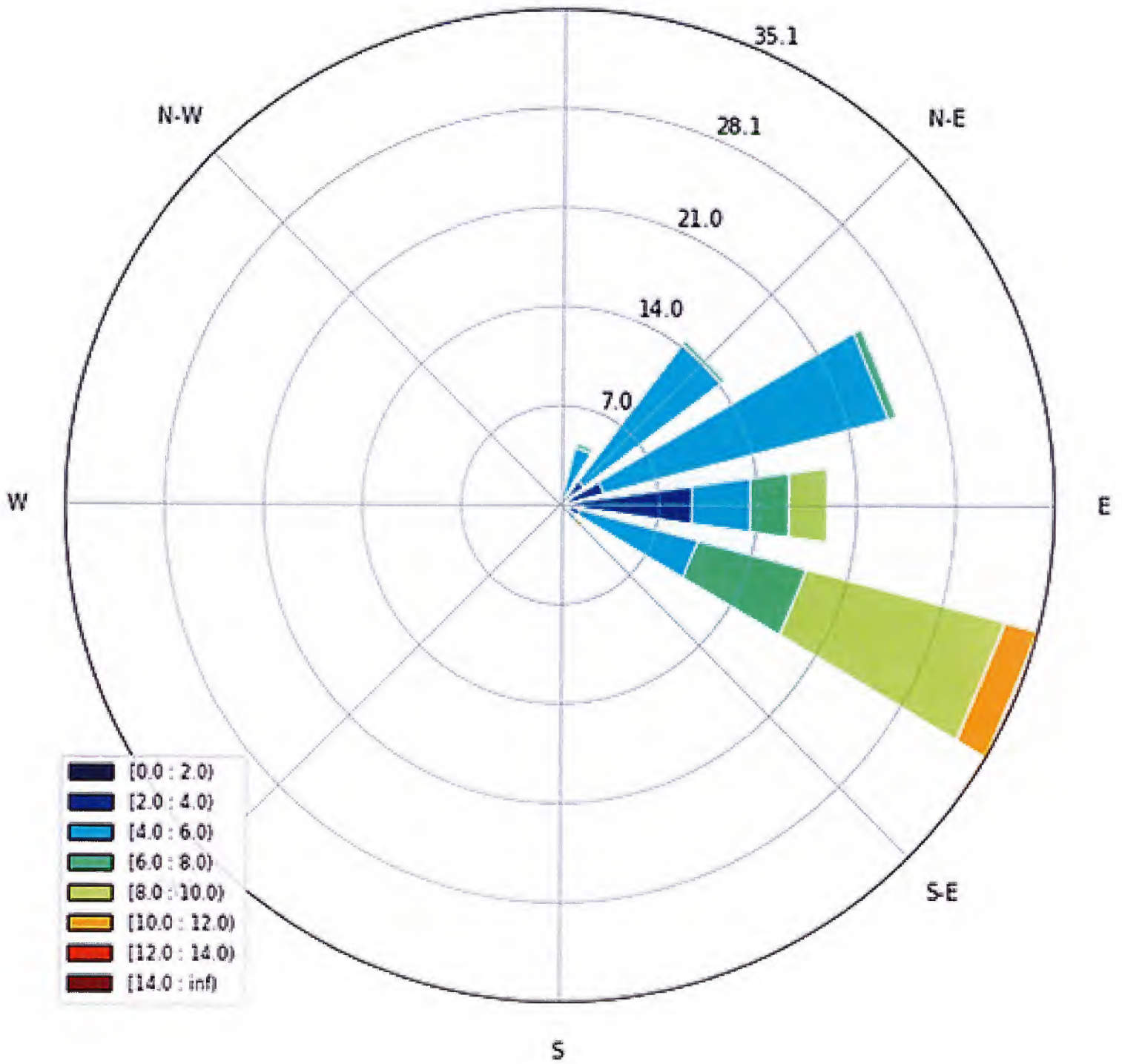
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FPC: Oct 11 2018



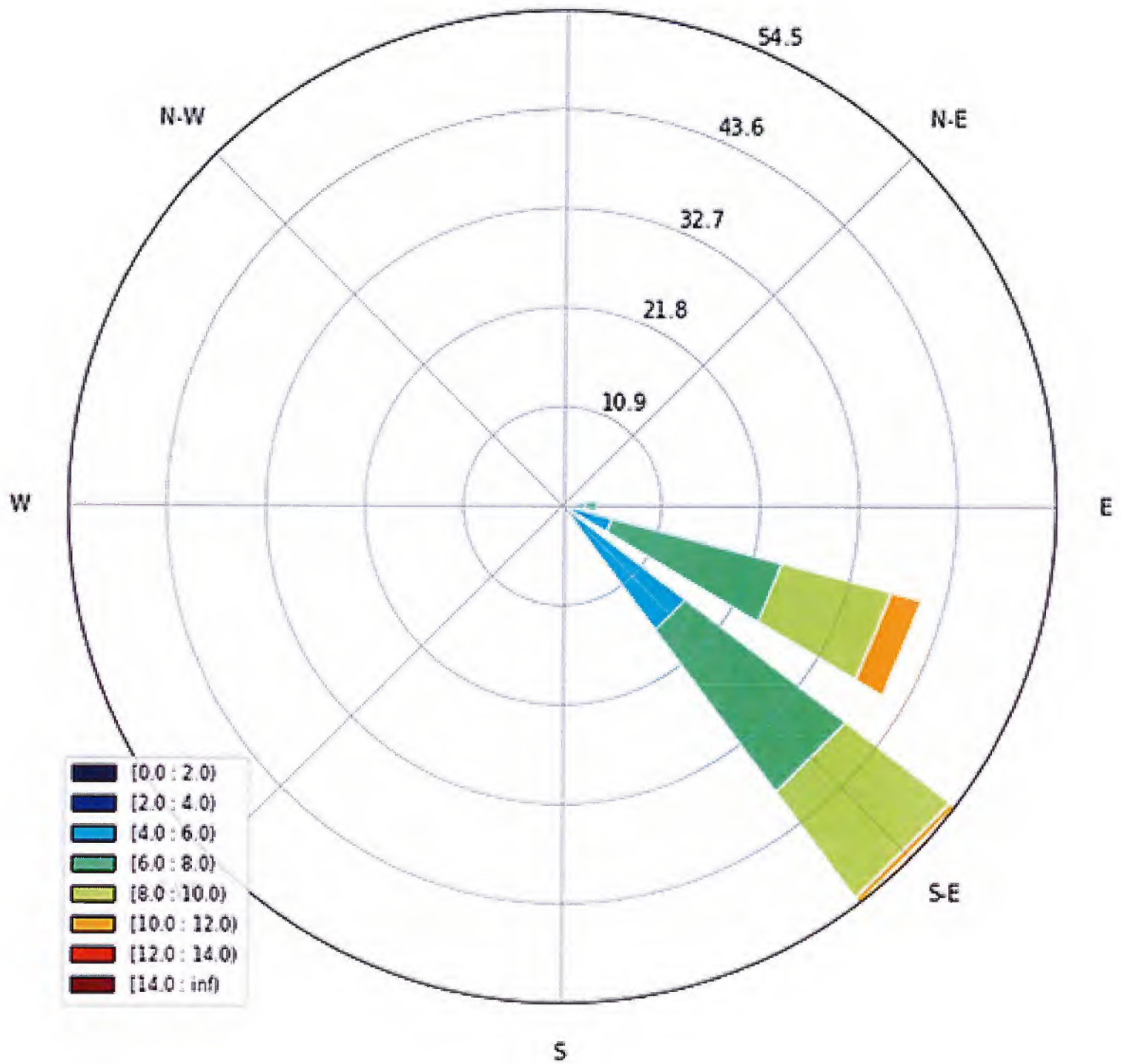
FPC: Oct 12 2018



M

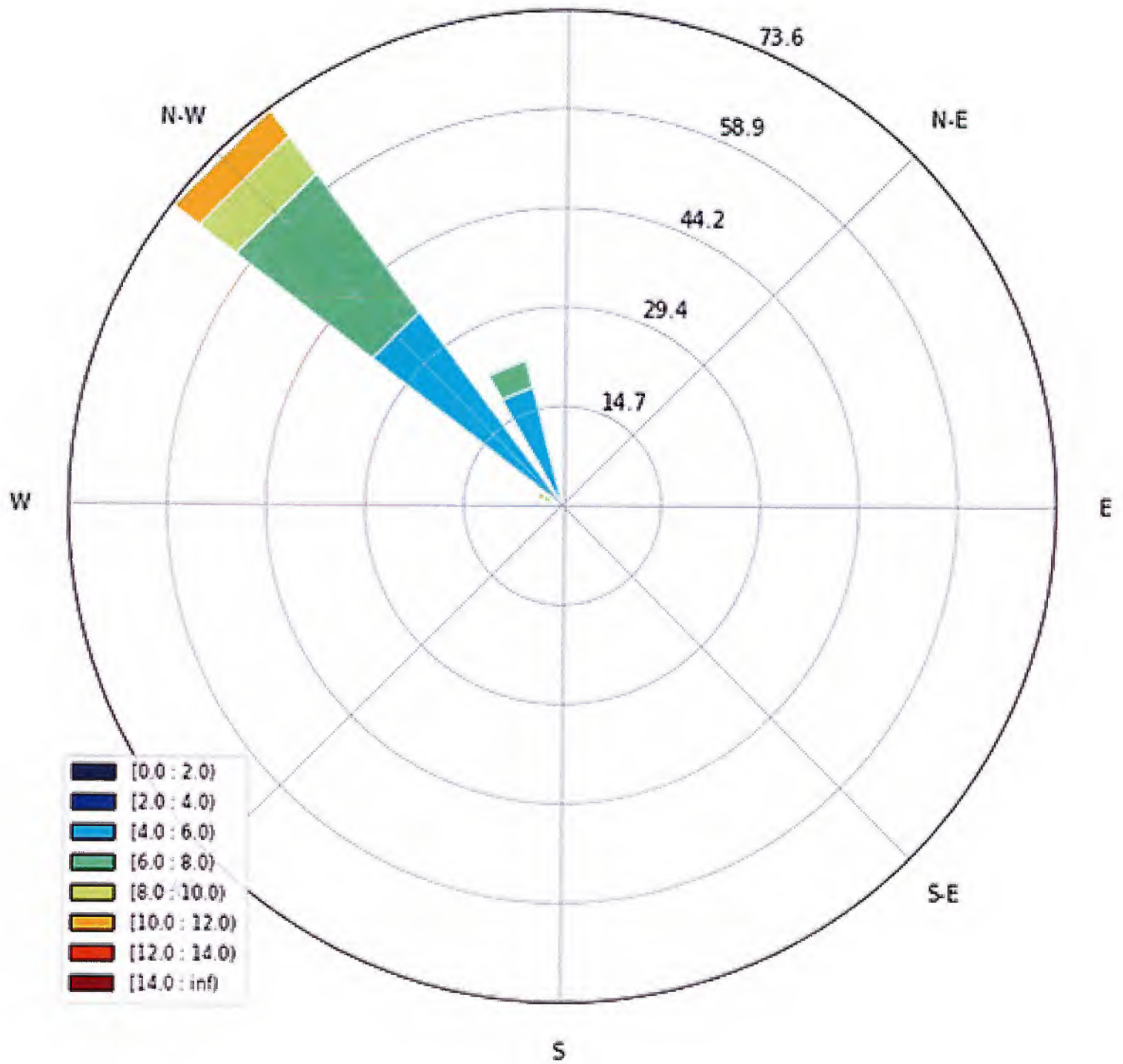


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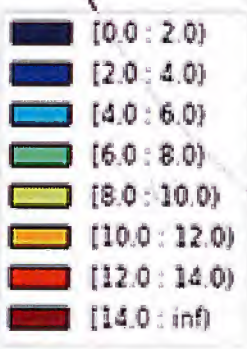




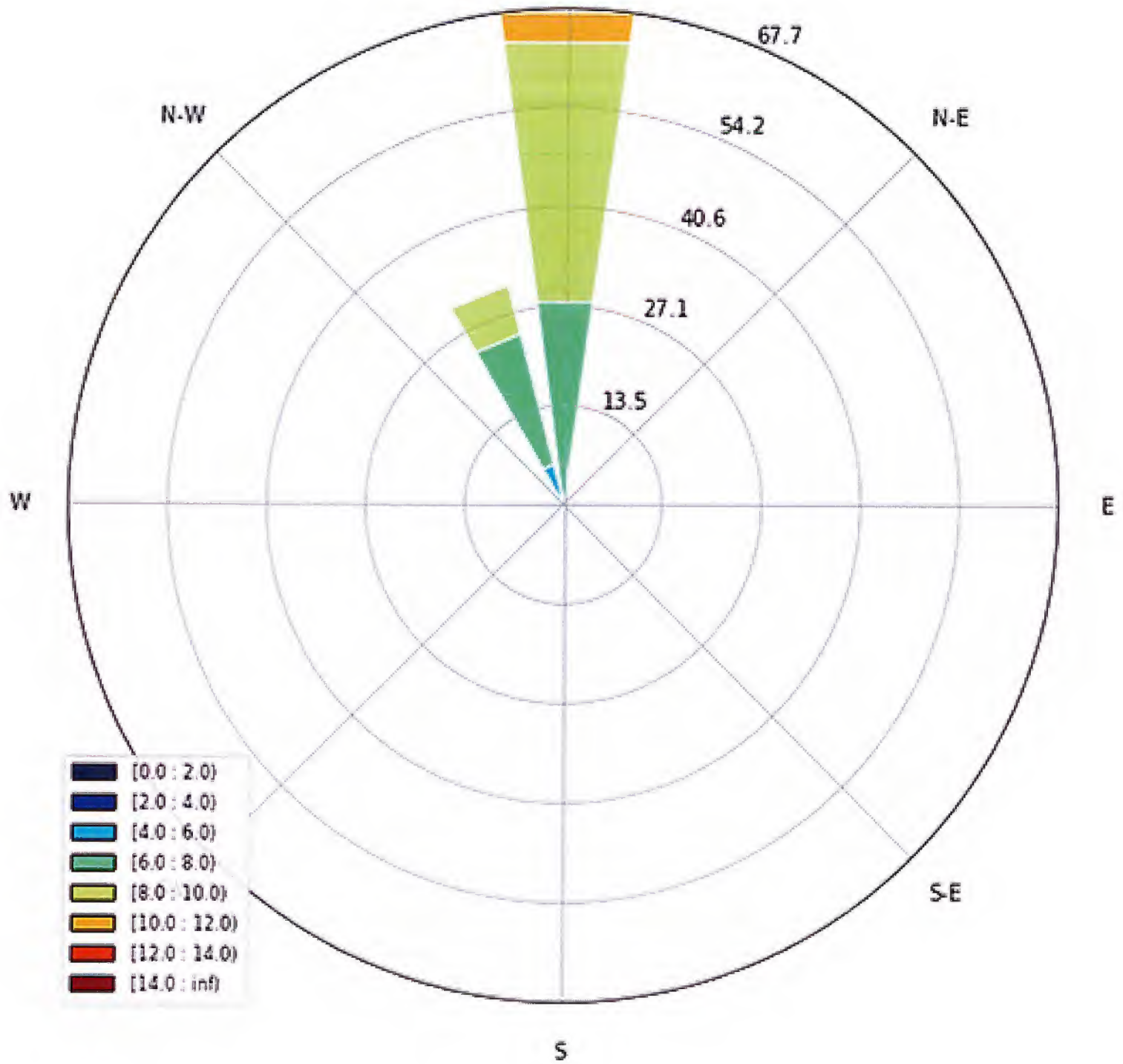
FPC: Oct 16 2018



N



## N



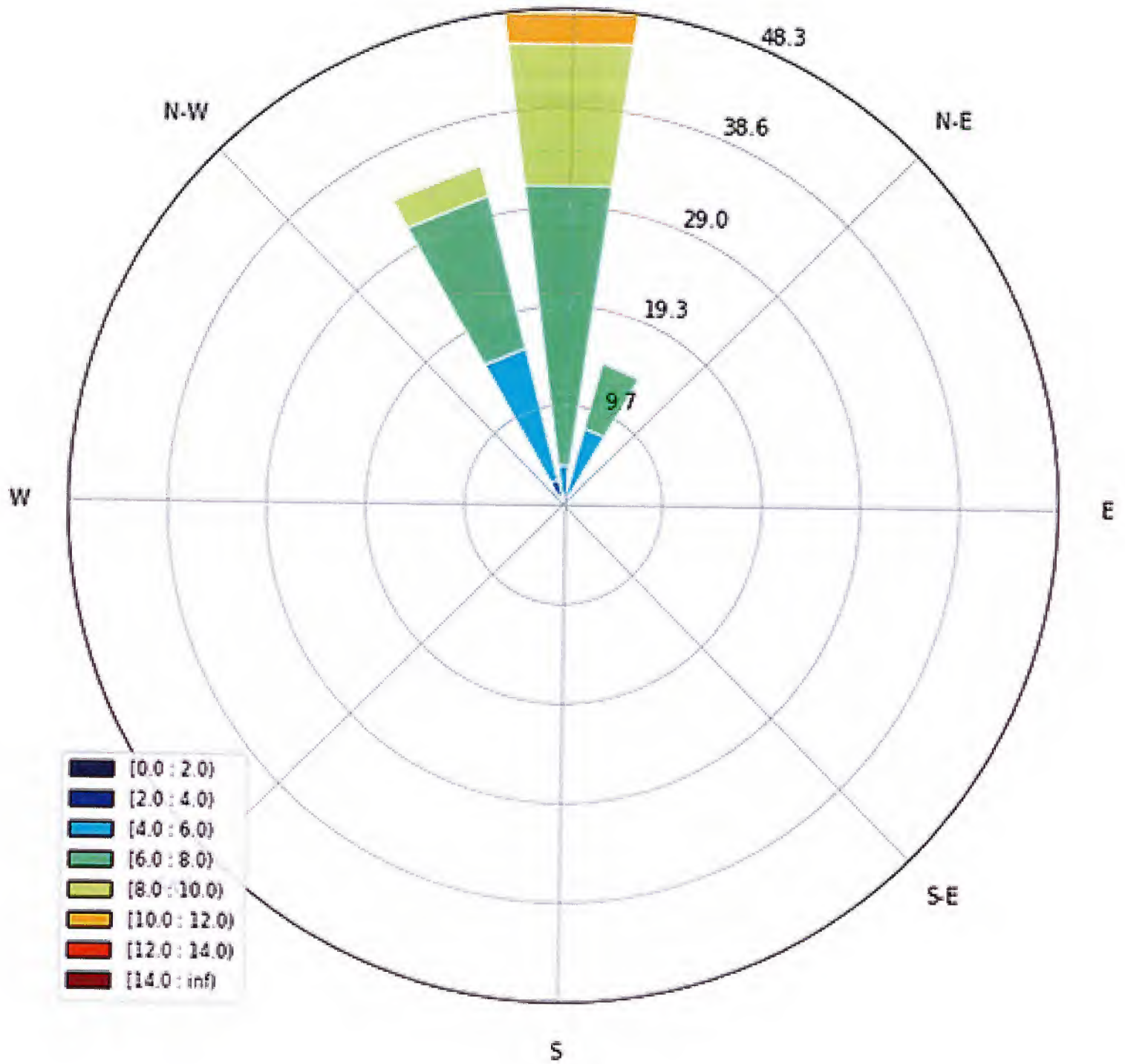


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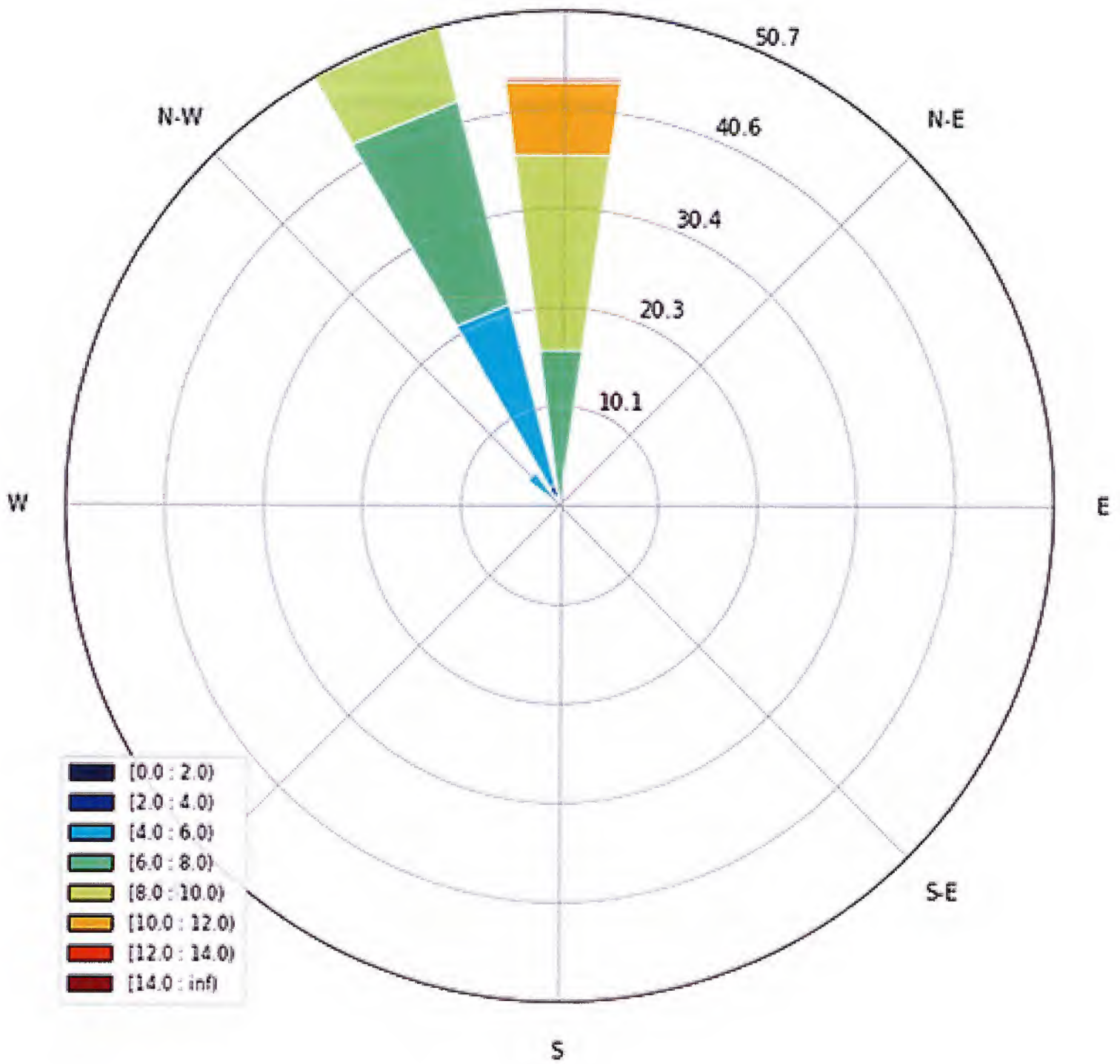




FPC: Oct 22 2018



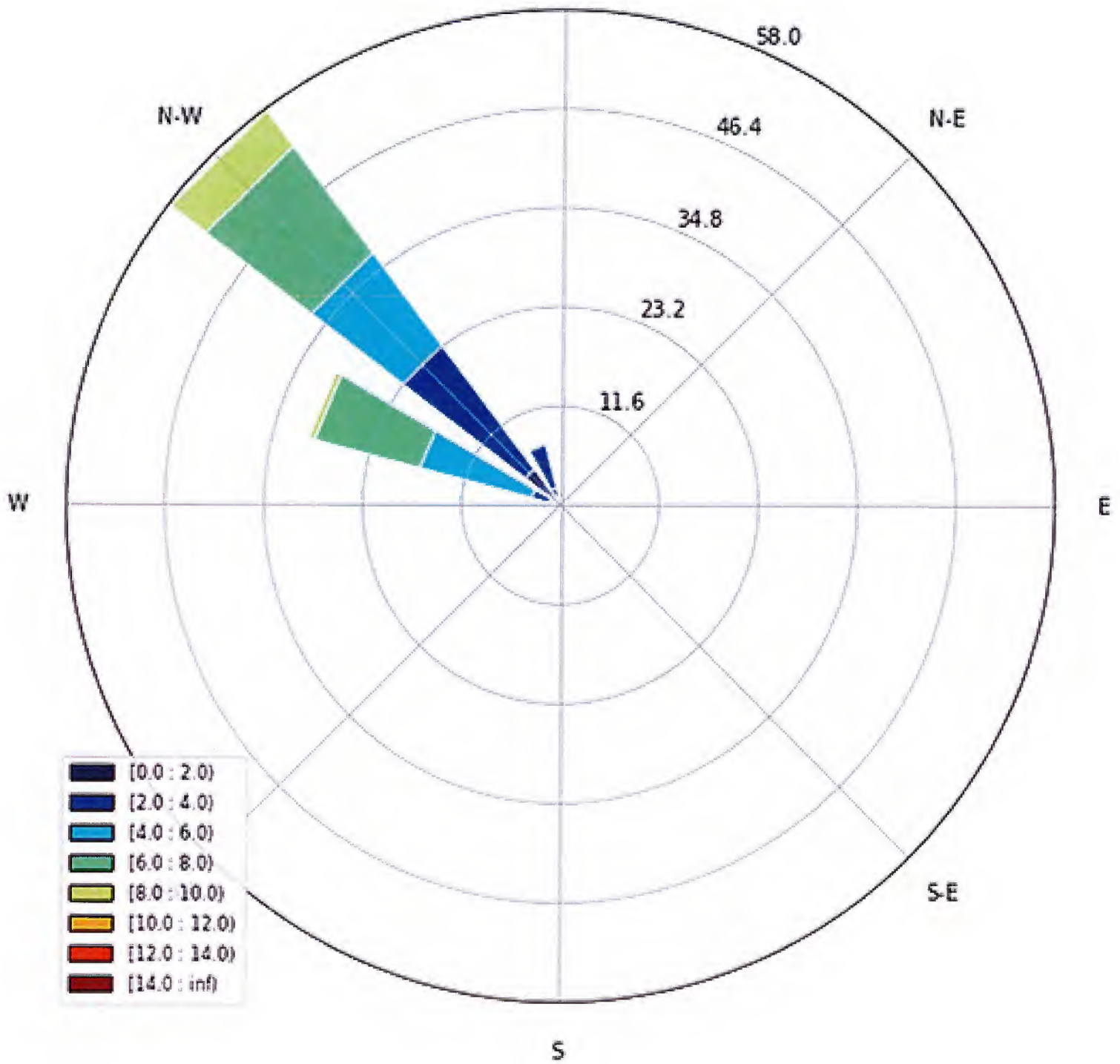
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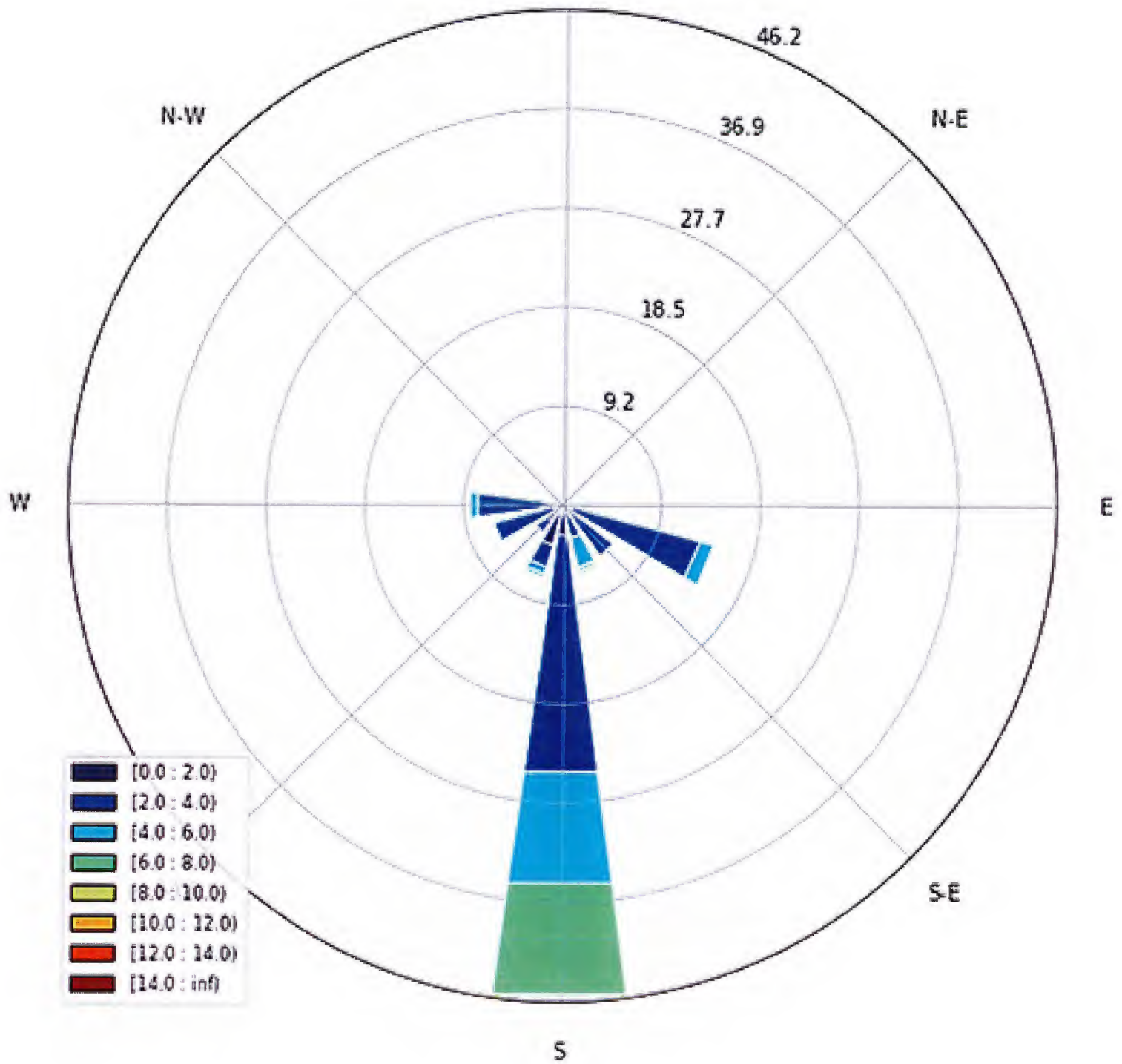
FPC: Oct 25 2018





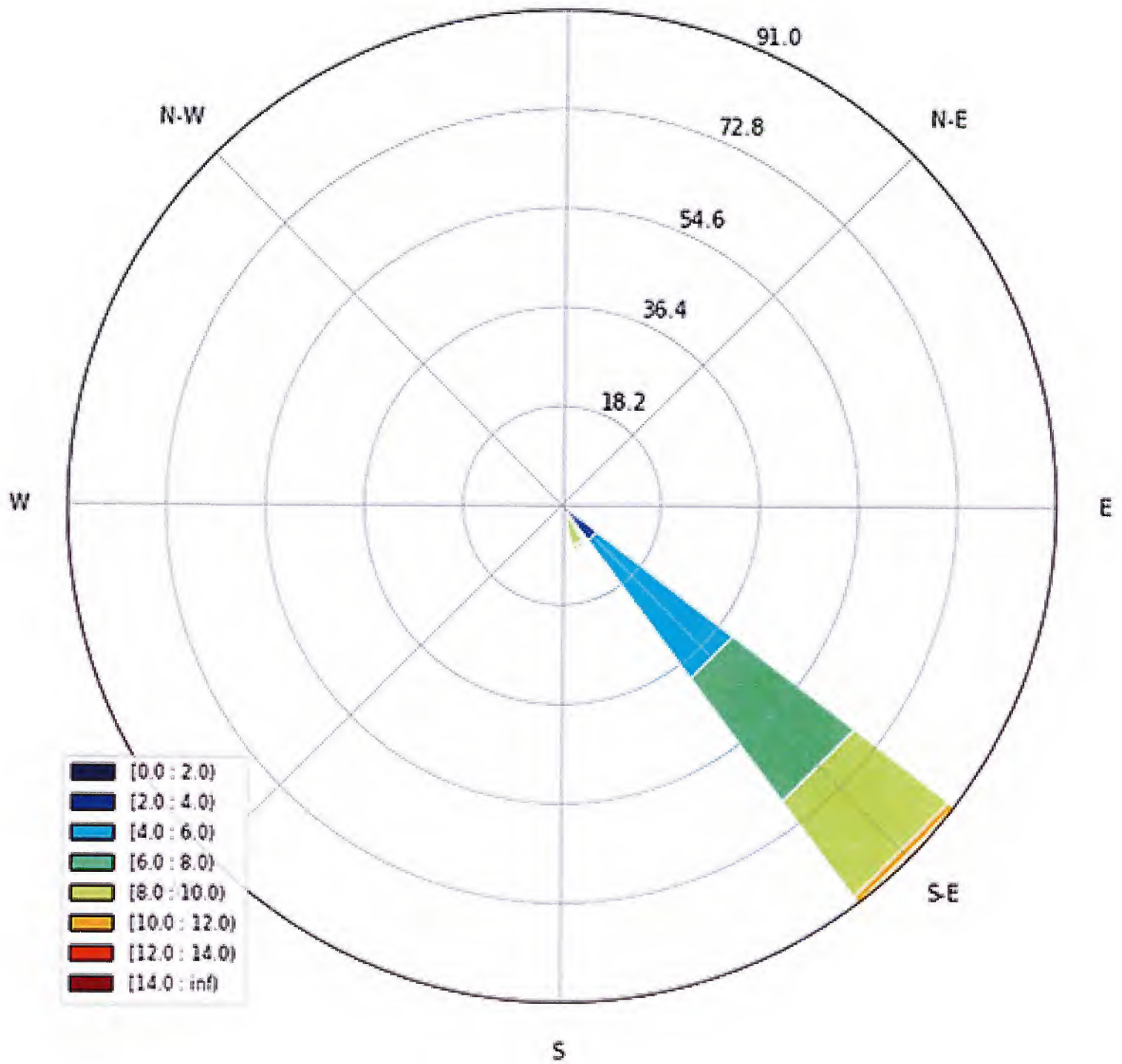


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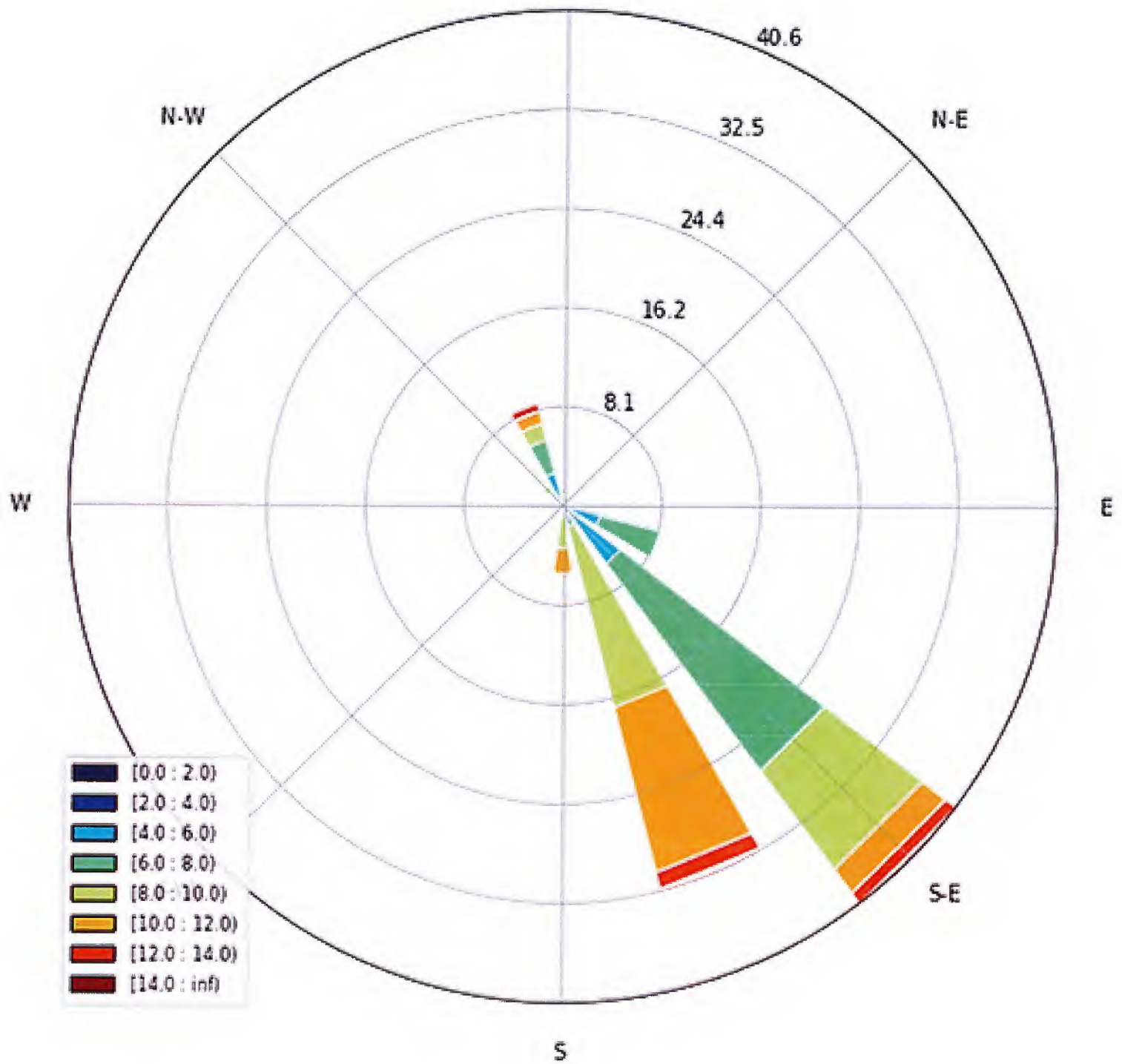




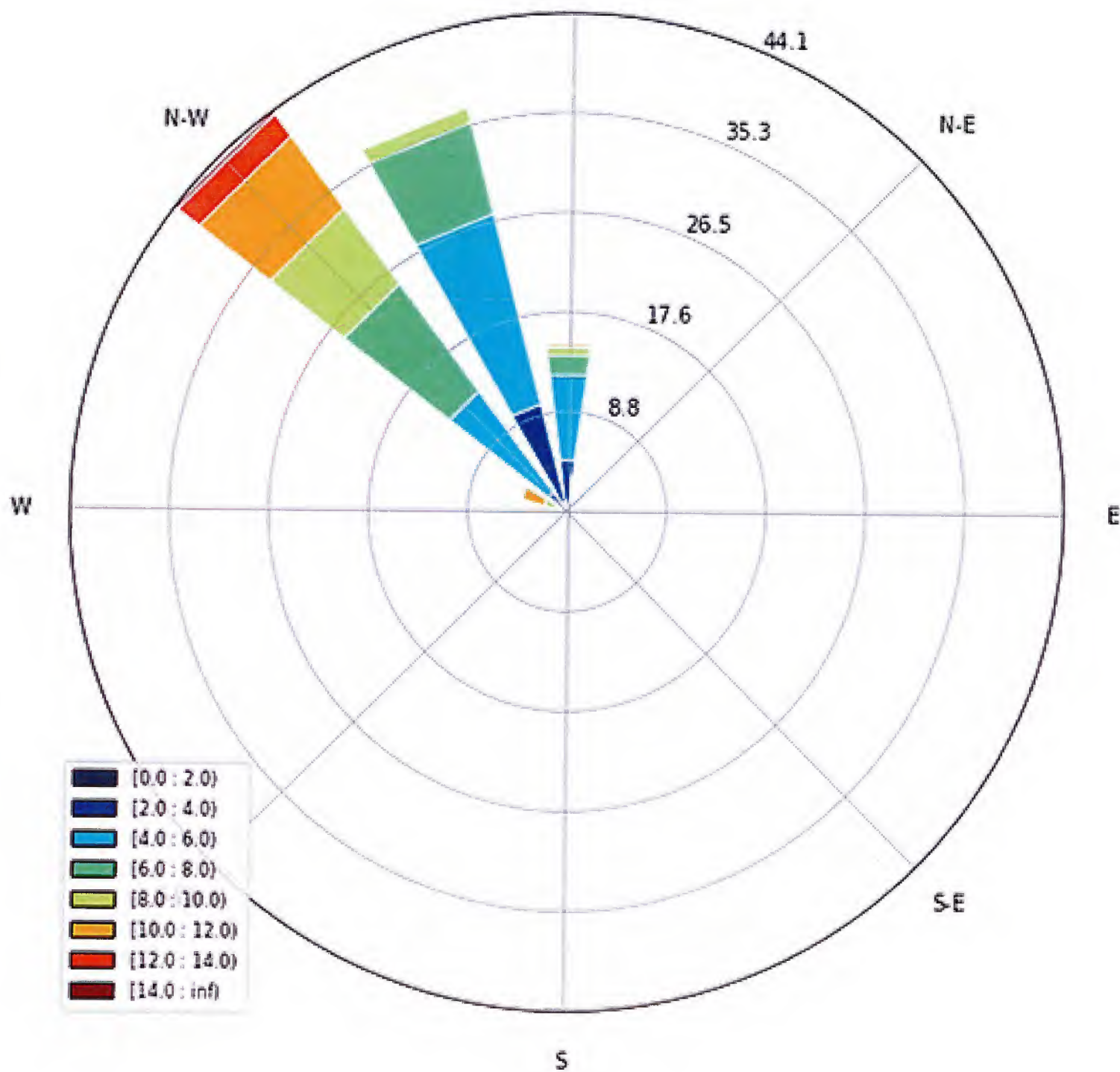
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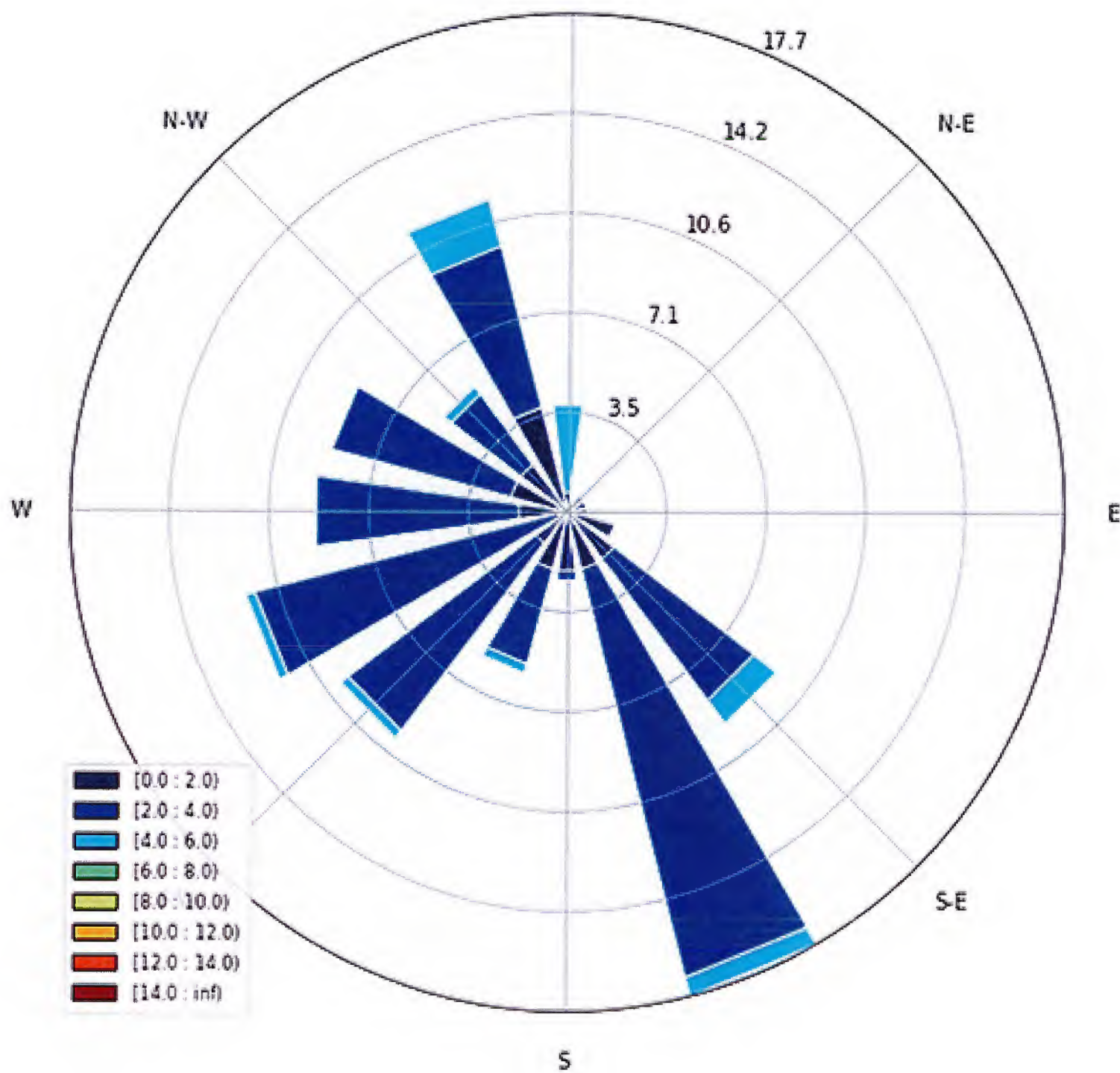
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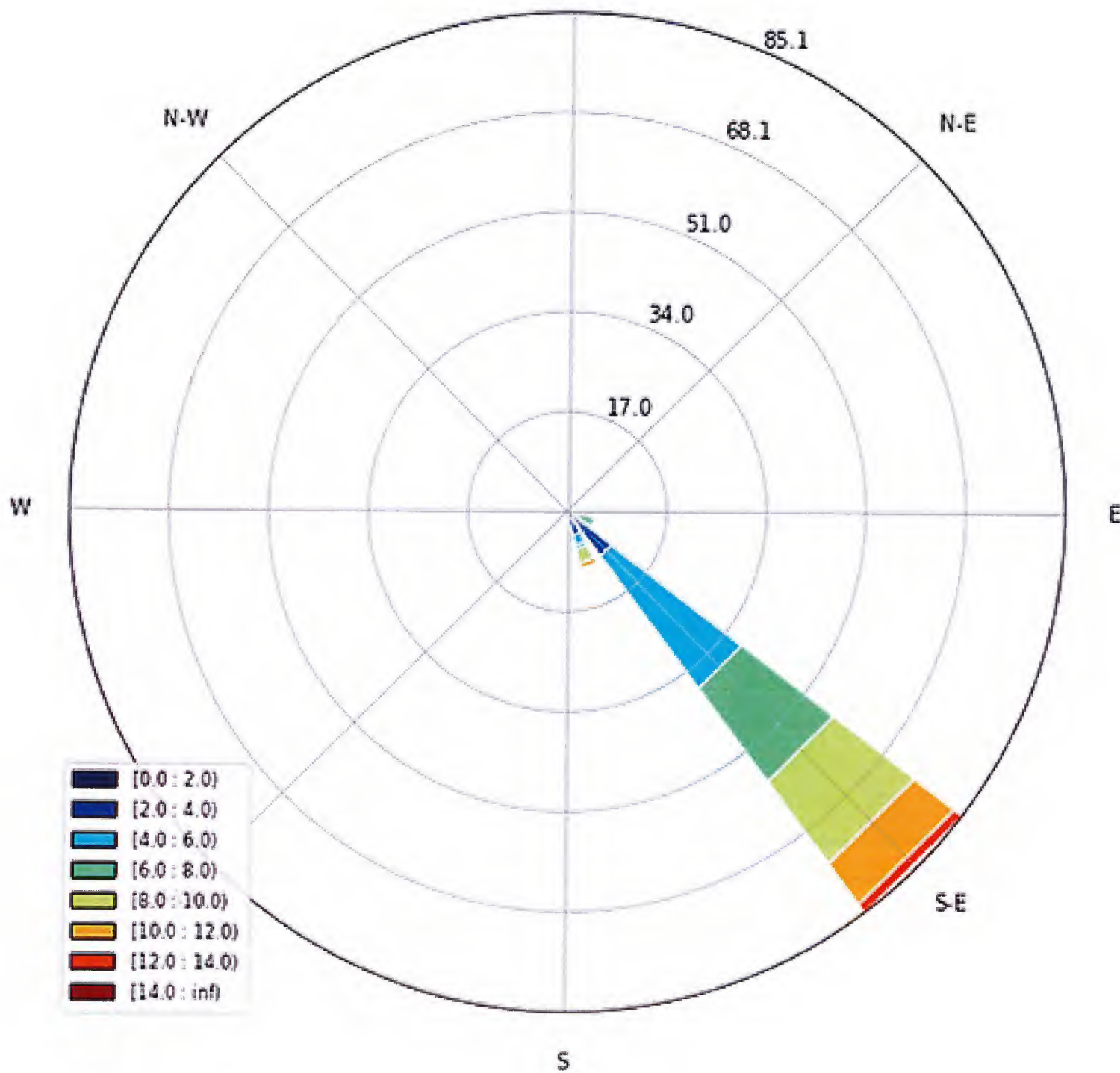
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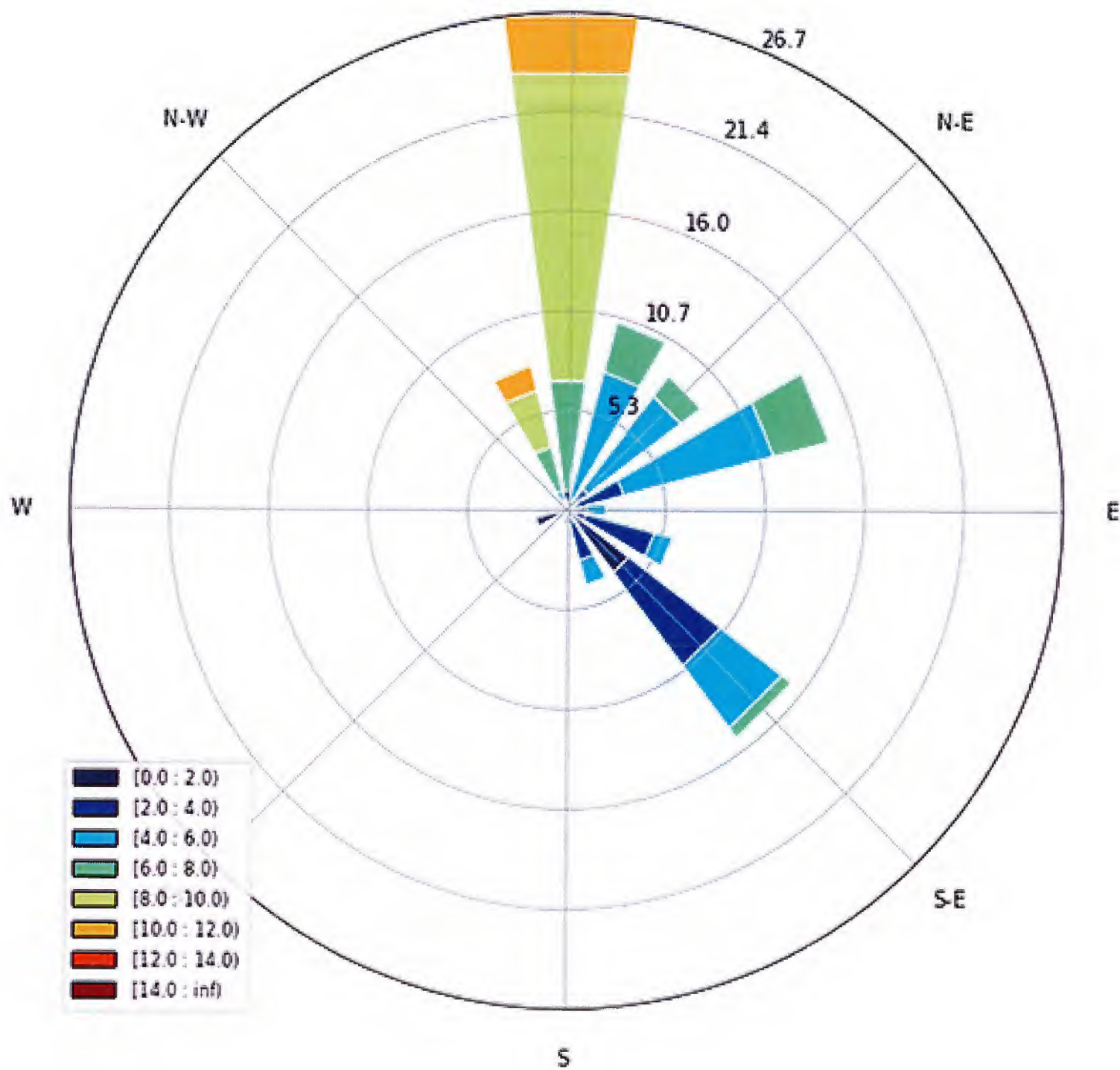
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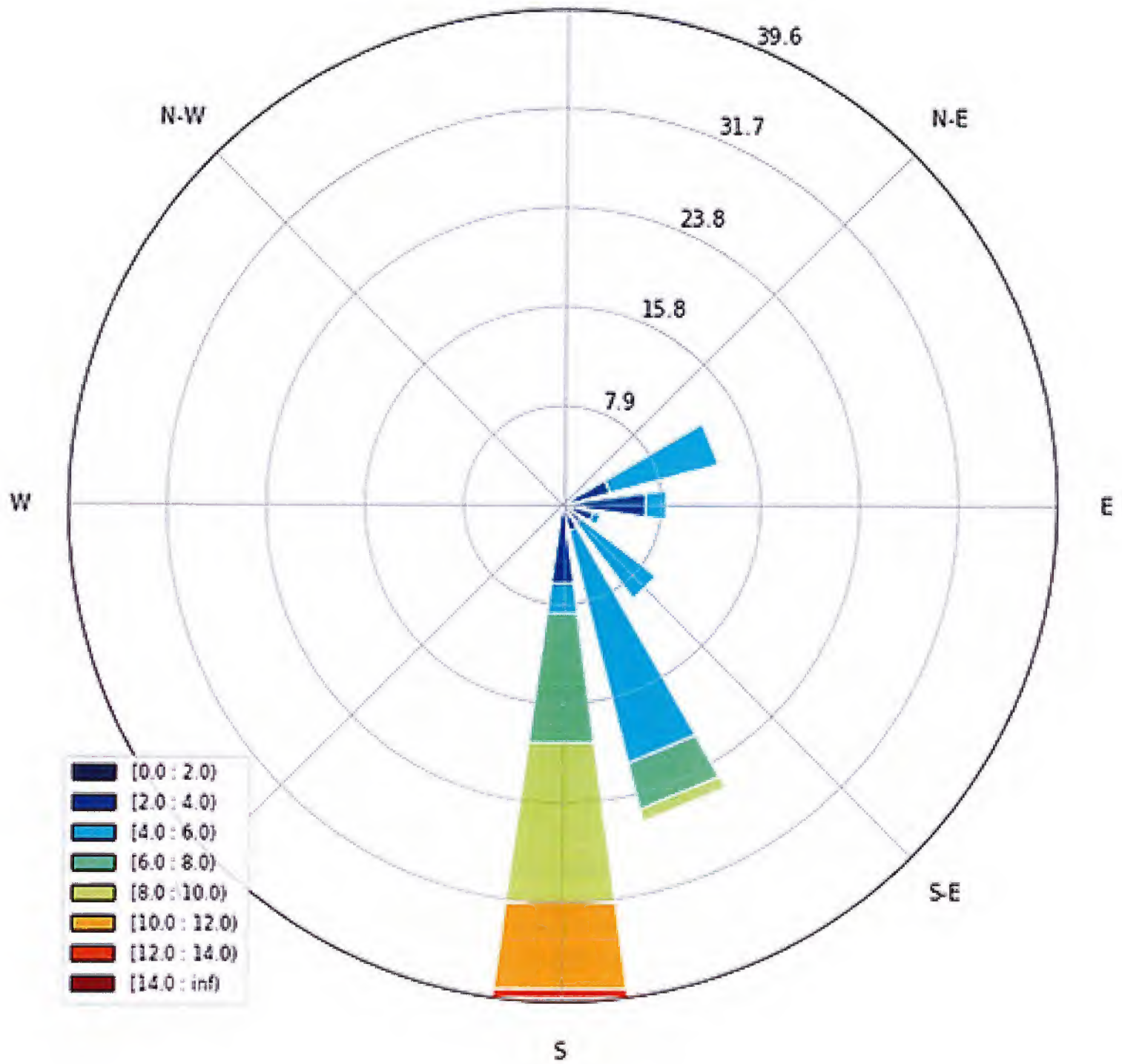
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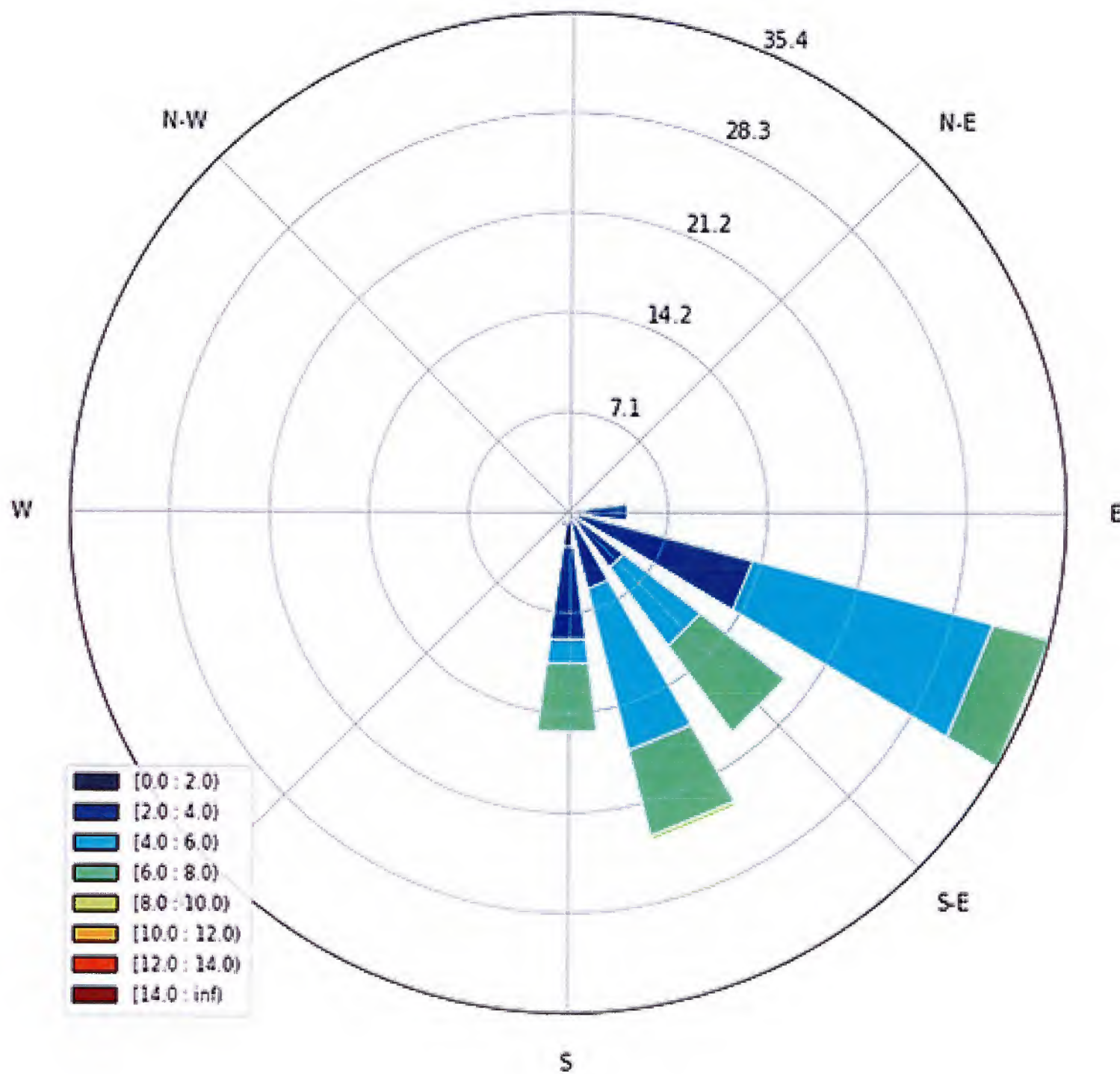
FPC: Nov 4 2018



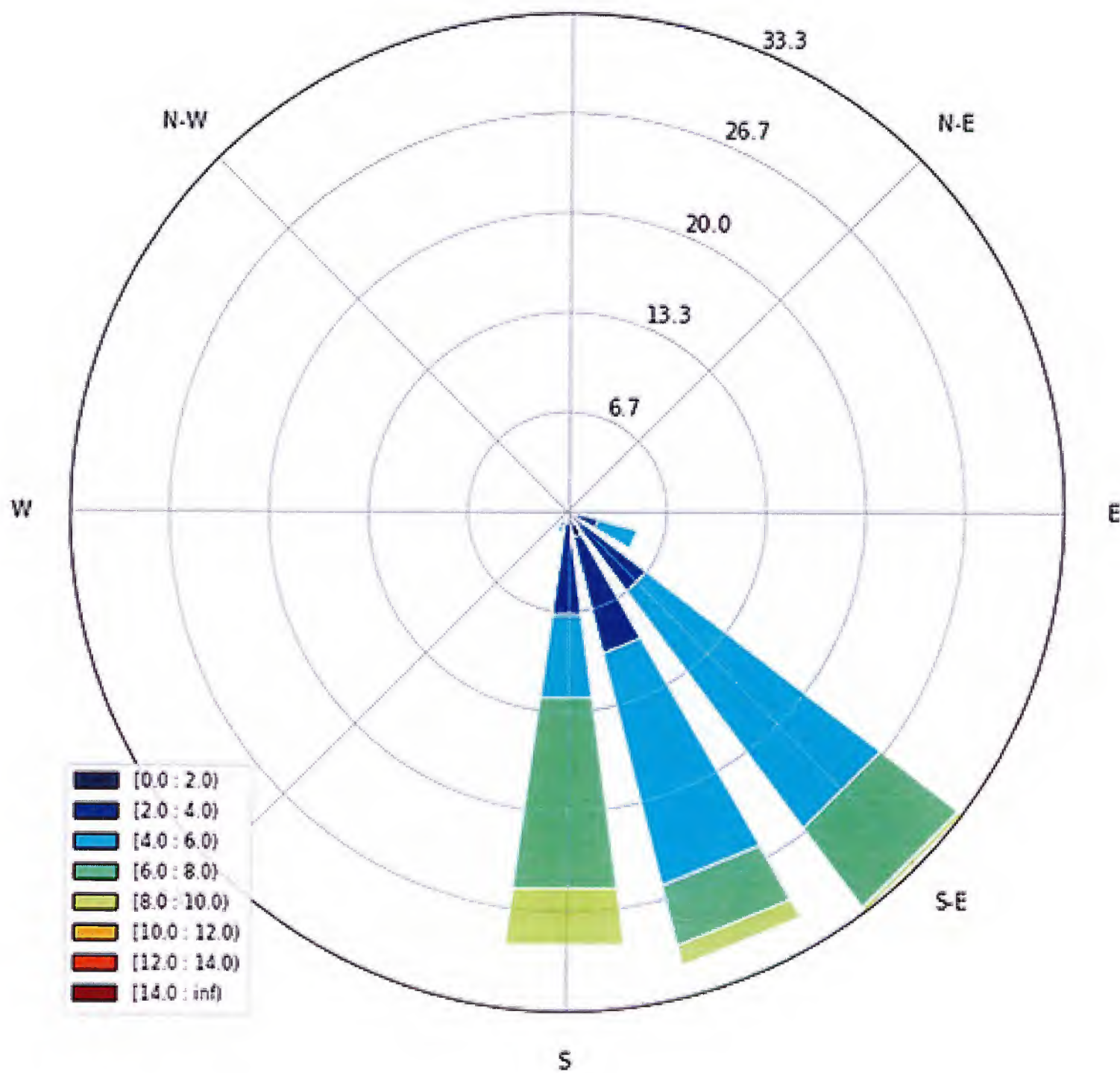
FPC: Nov 5 2018



14



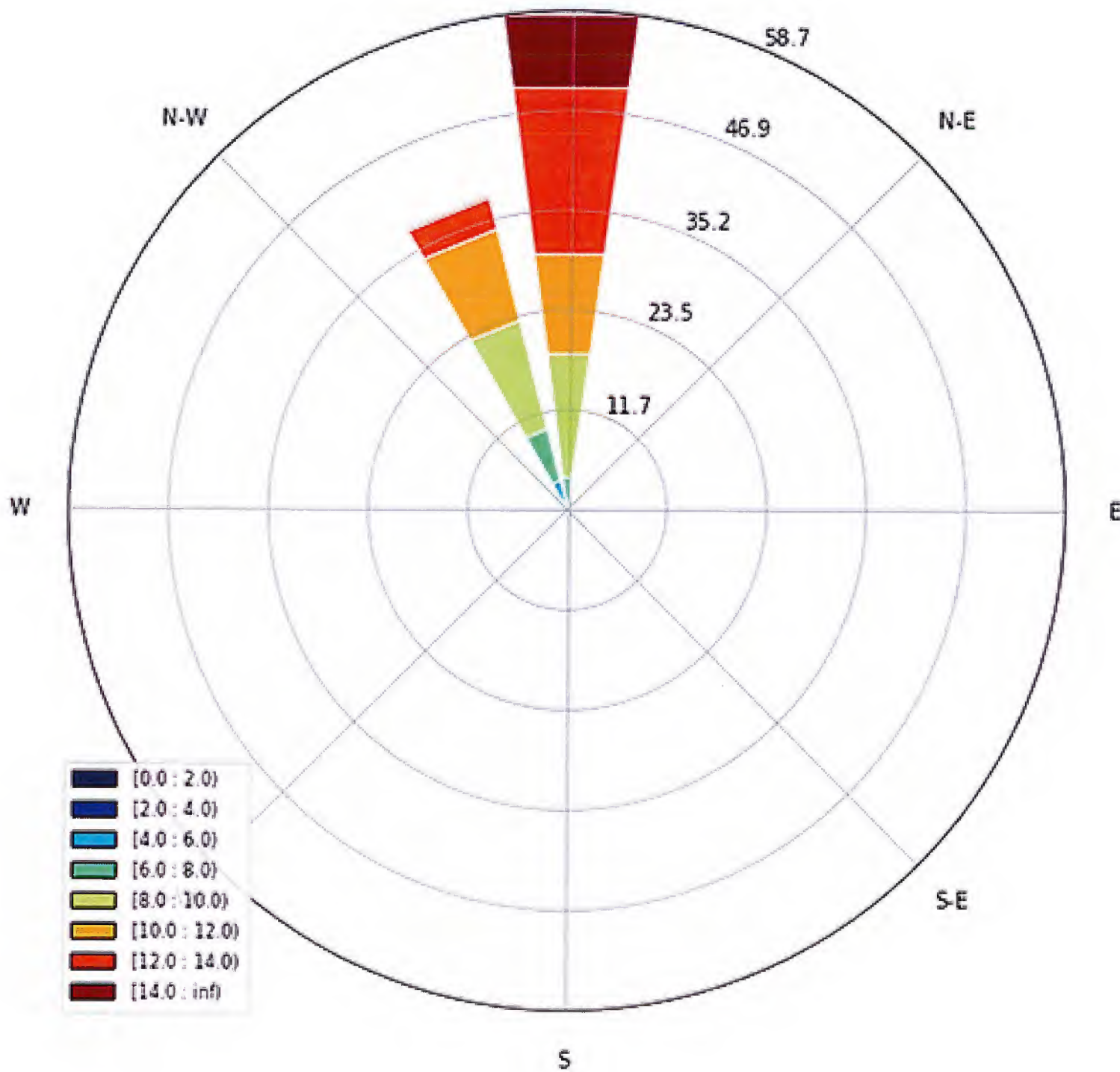
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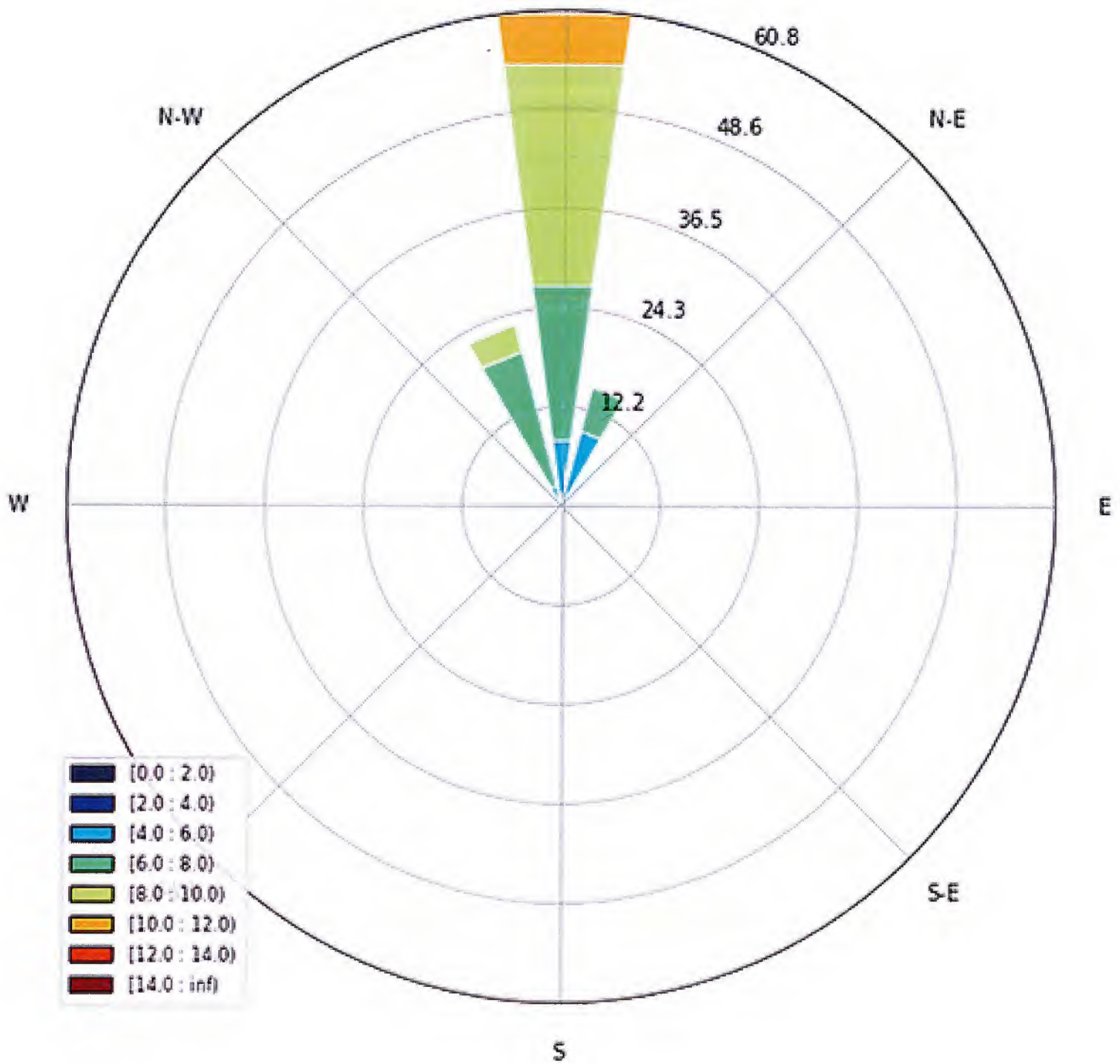
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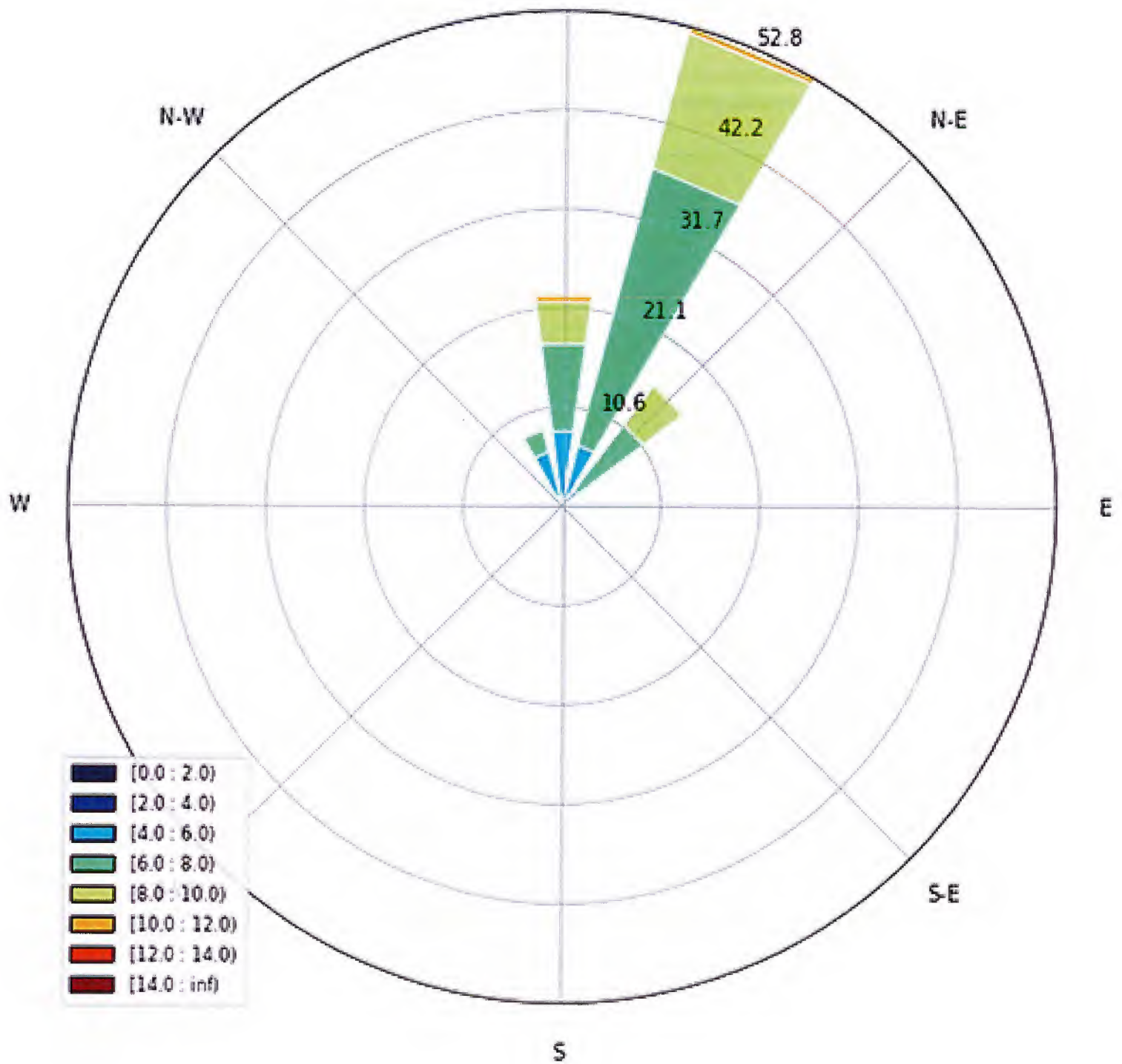
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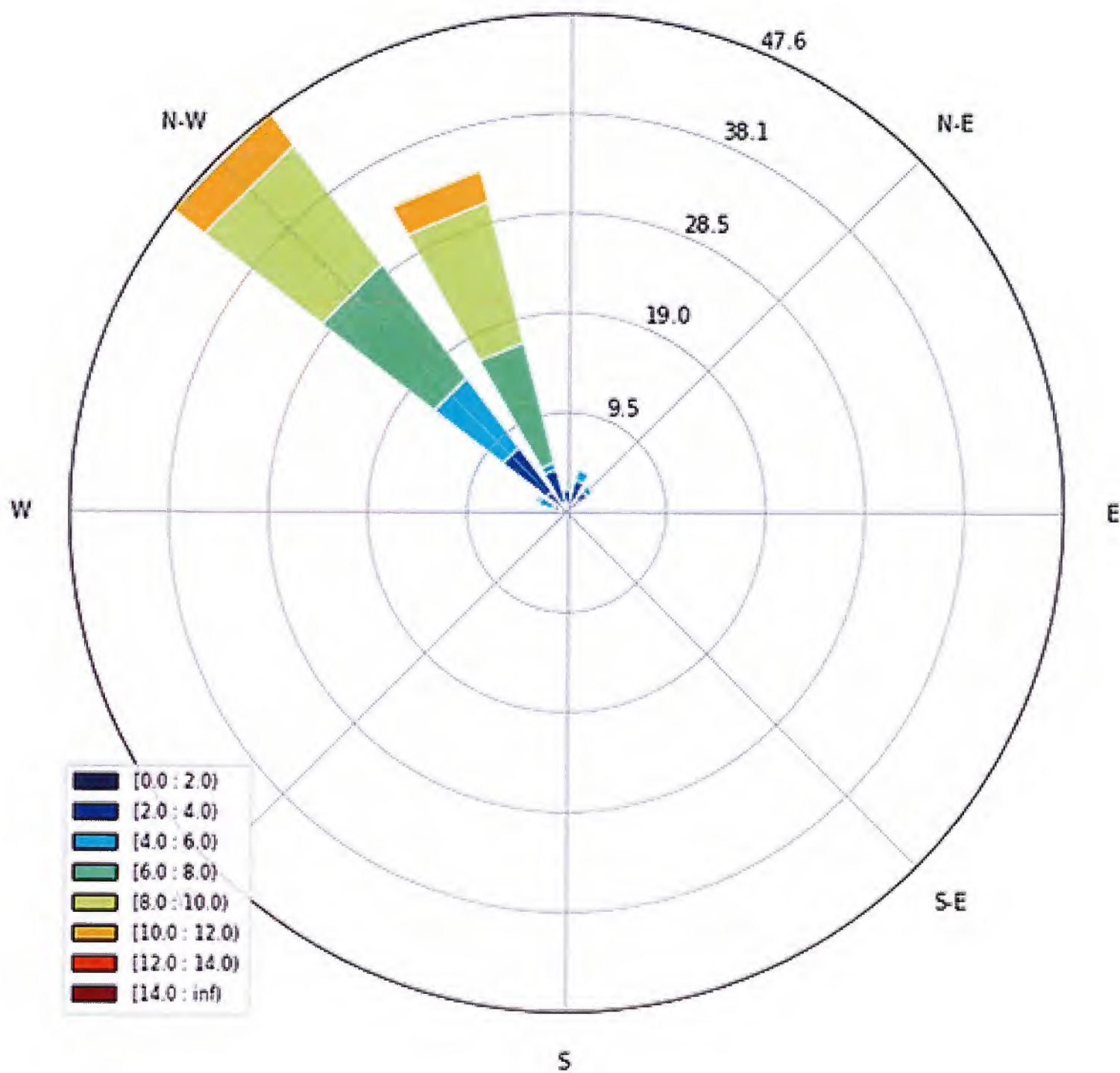
FPC: Nov 10 2018



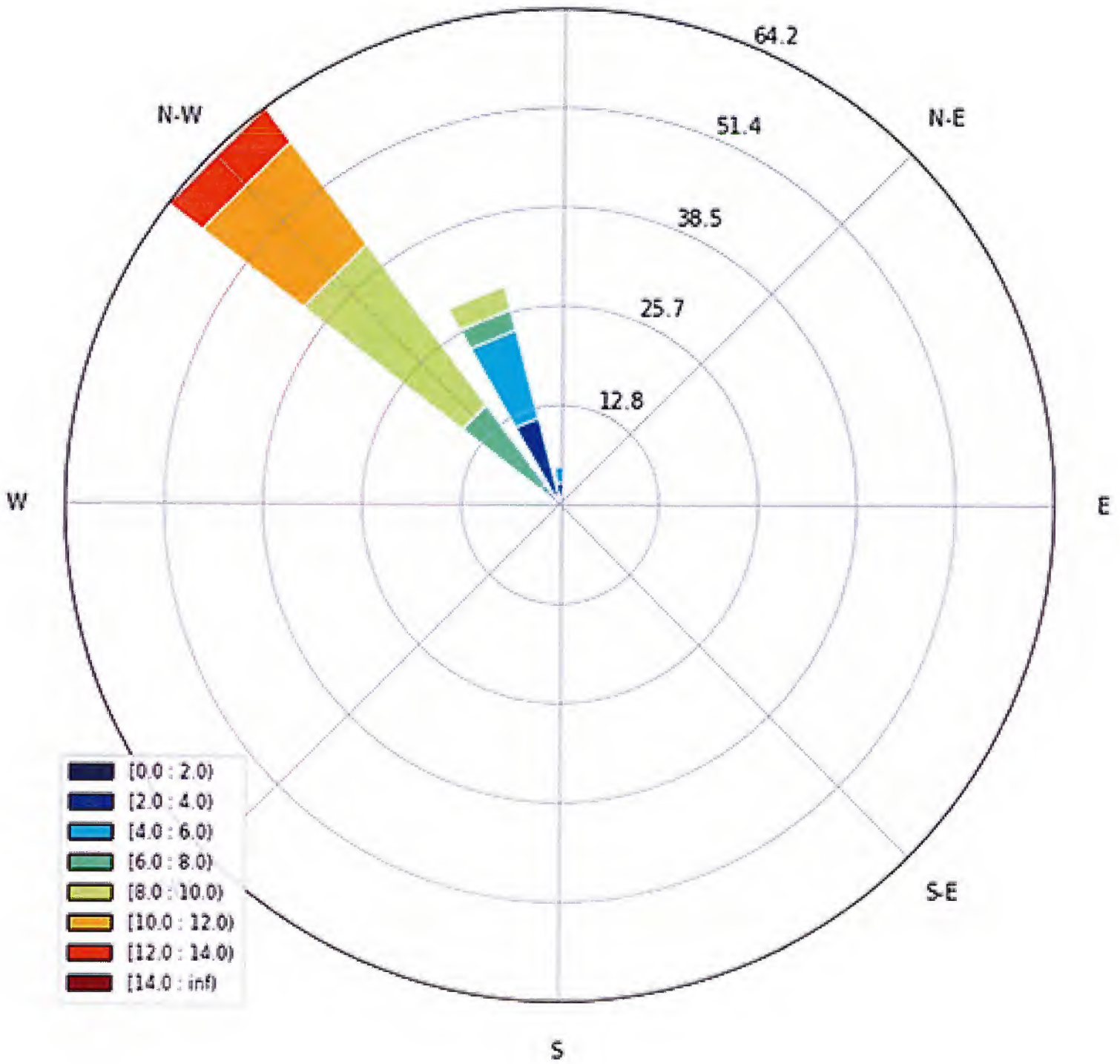
FPC: Nov 11 2018



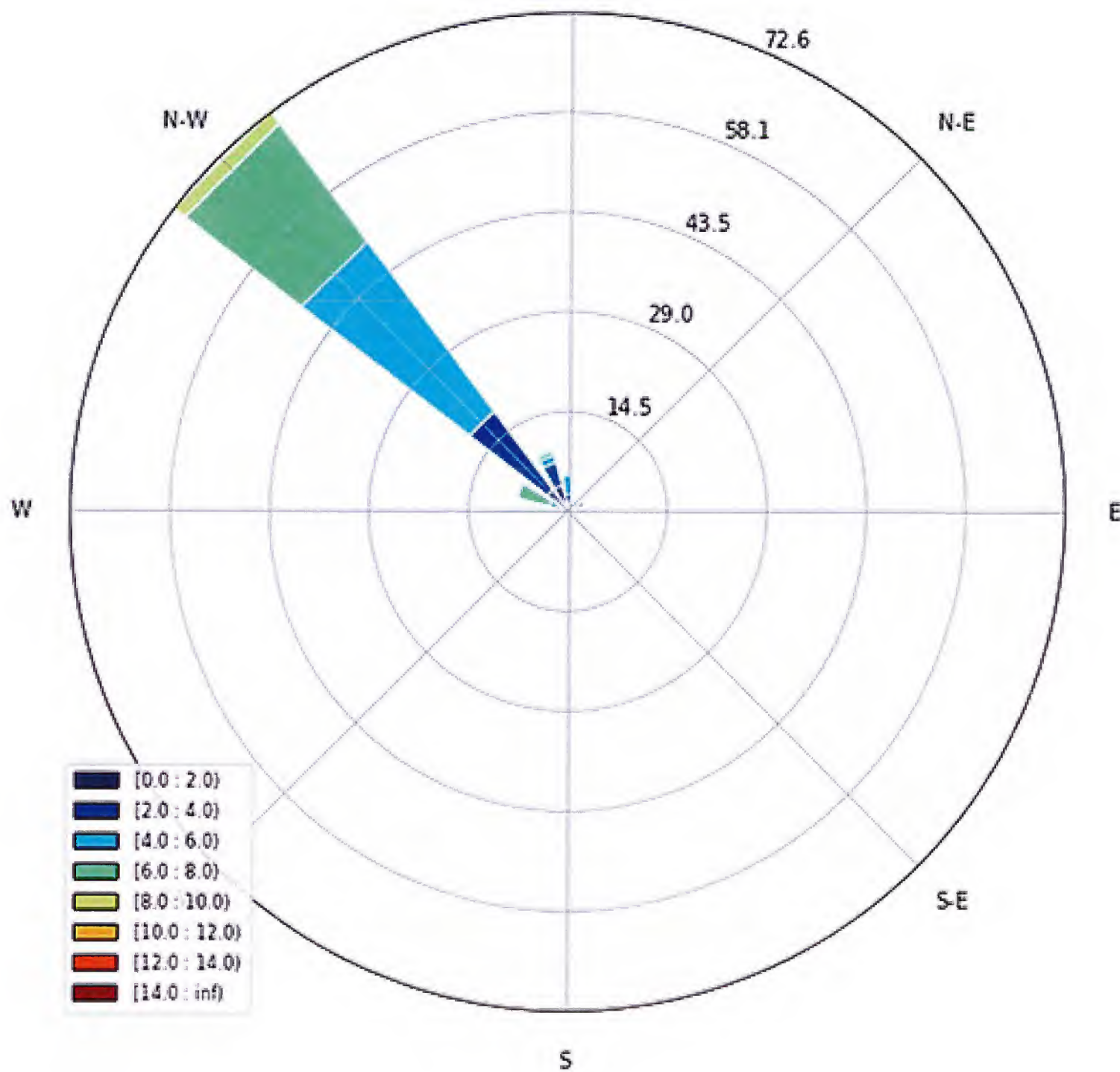
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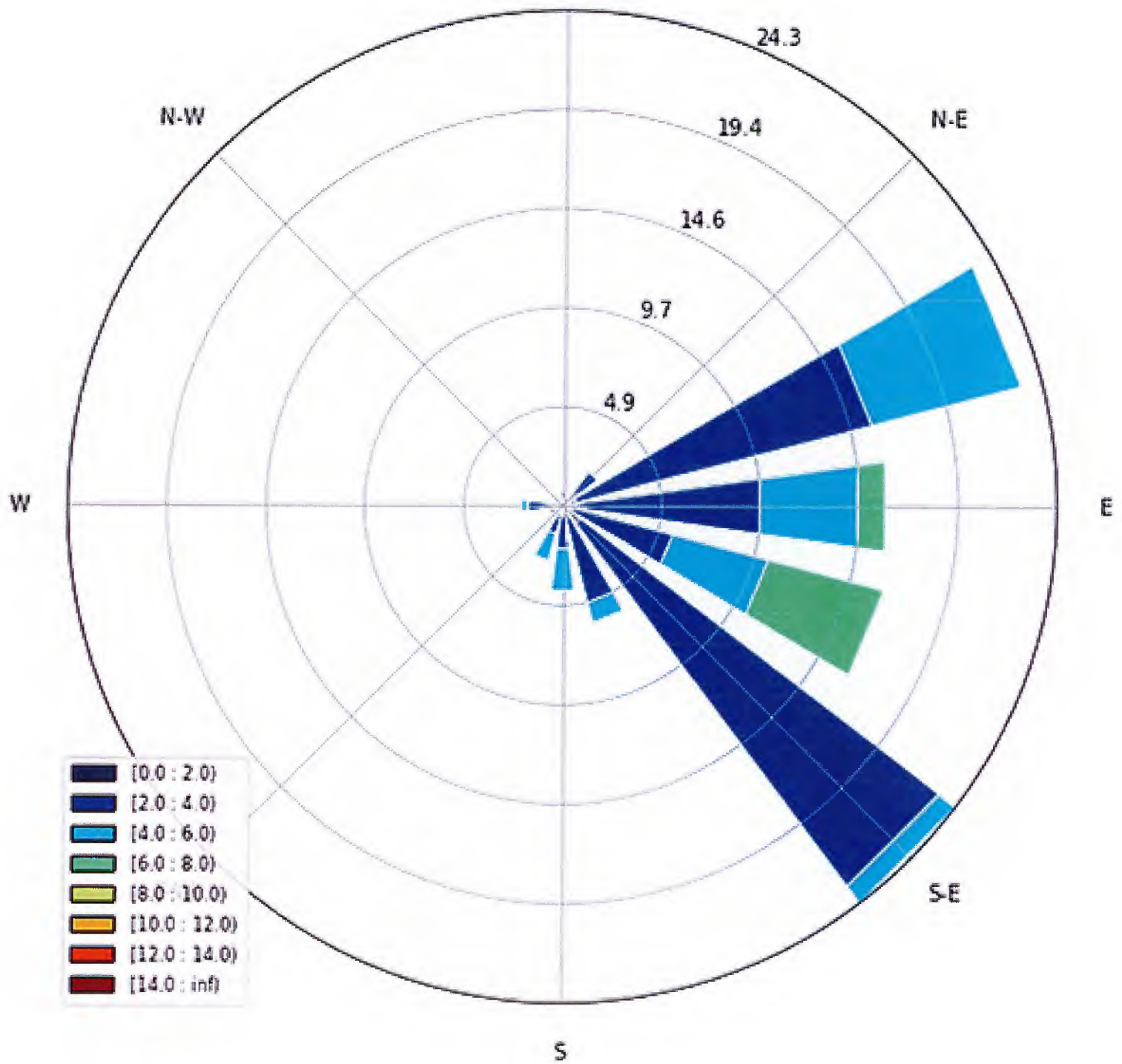
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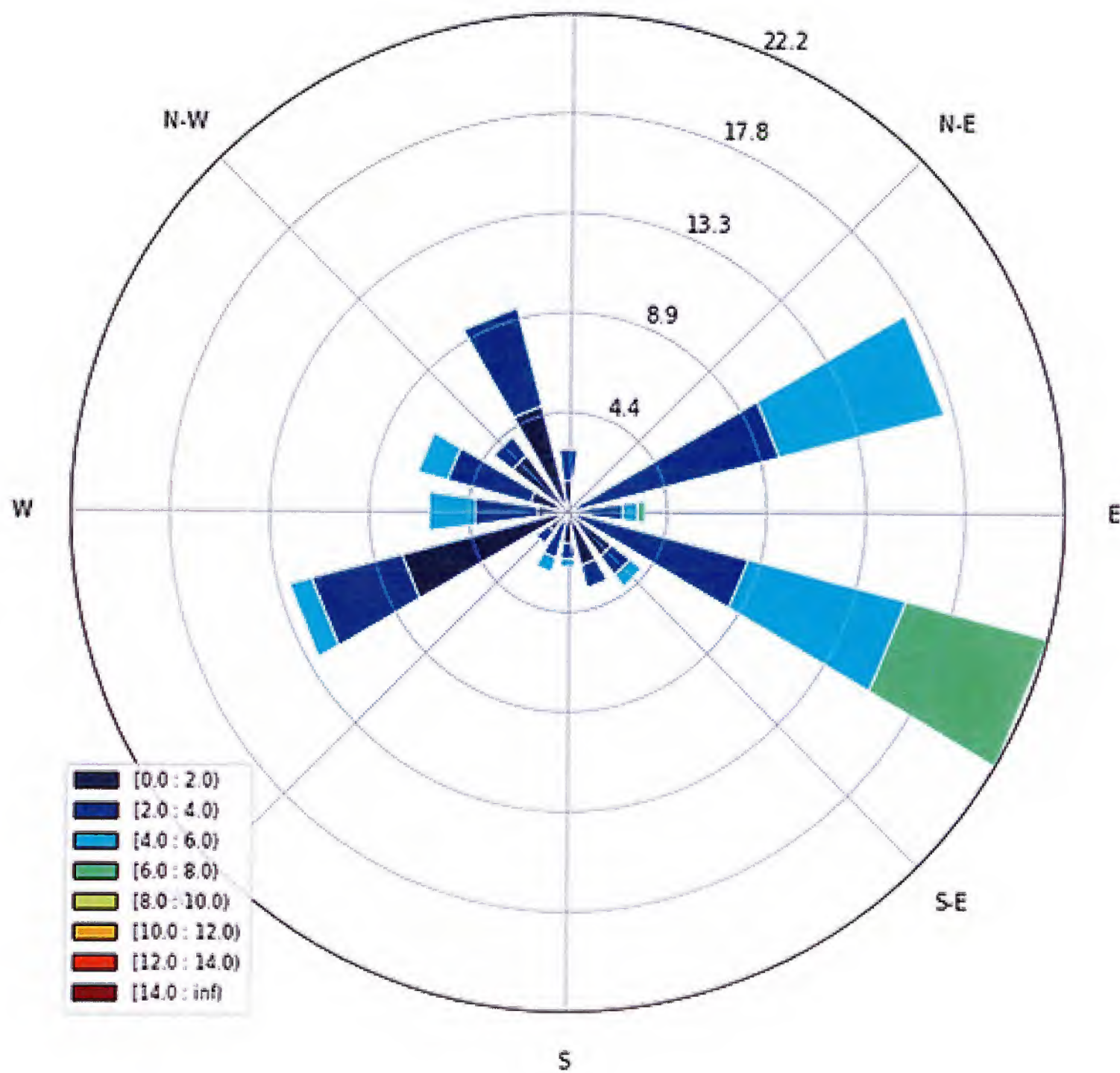
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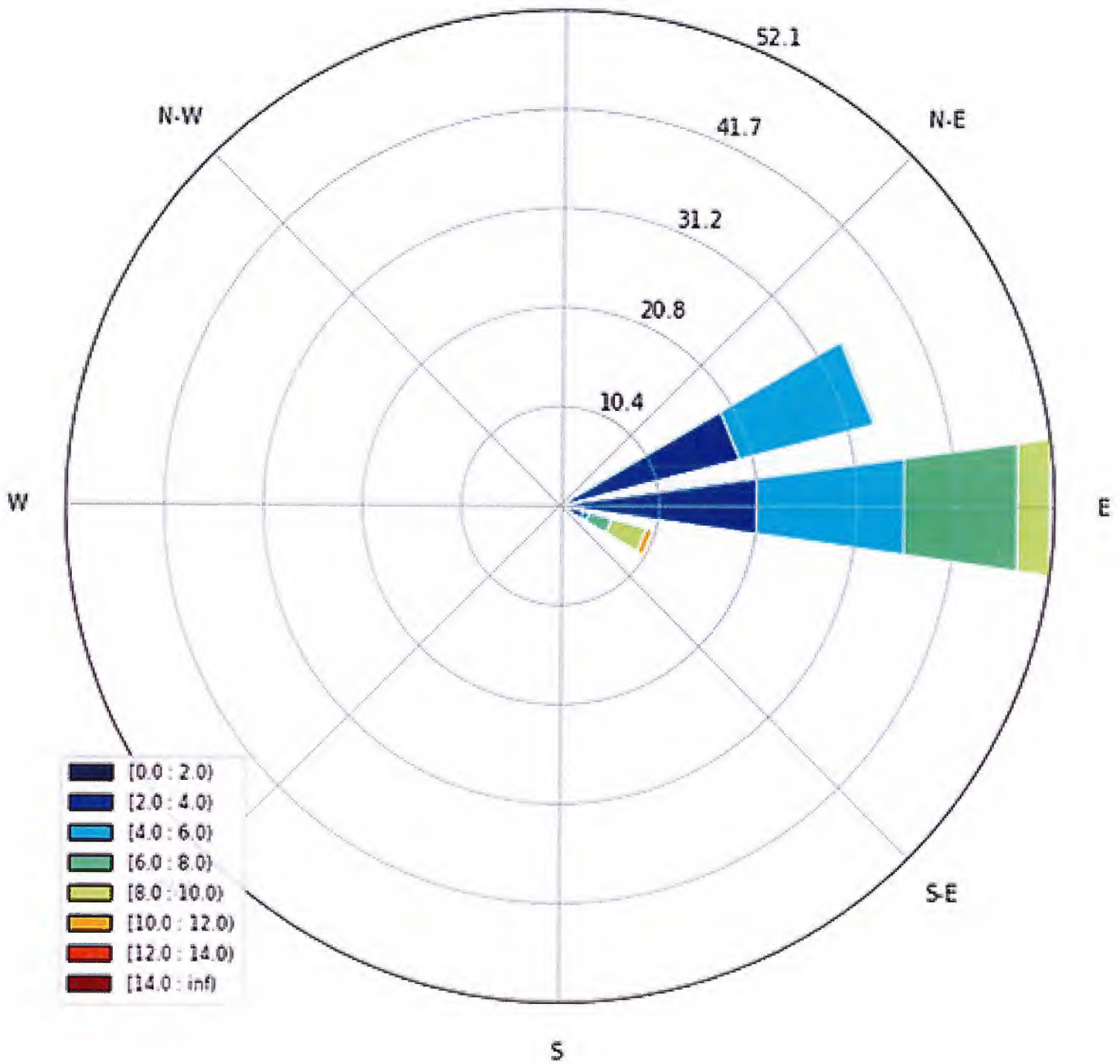
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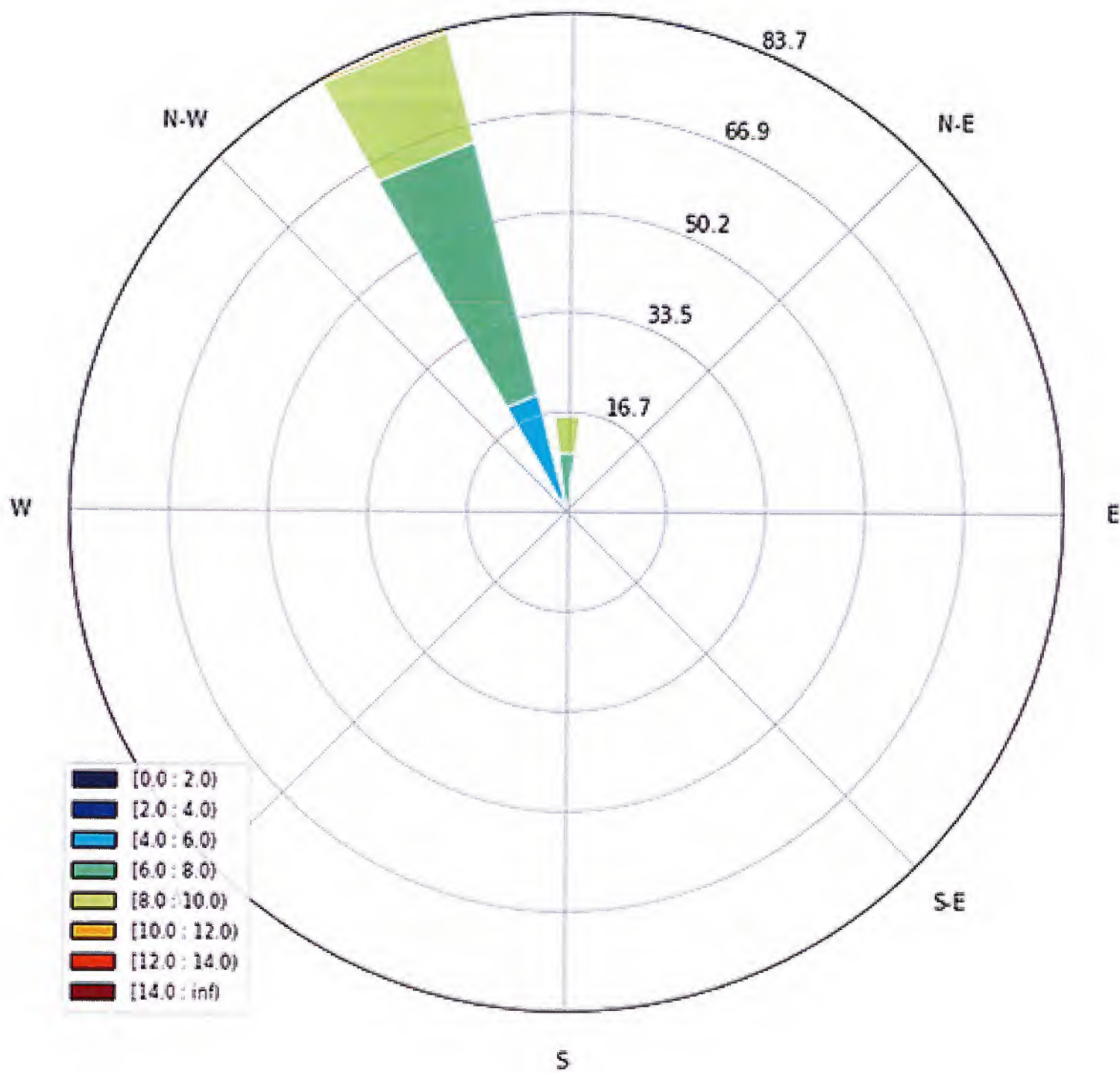
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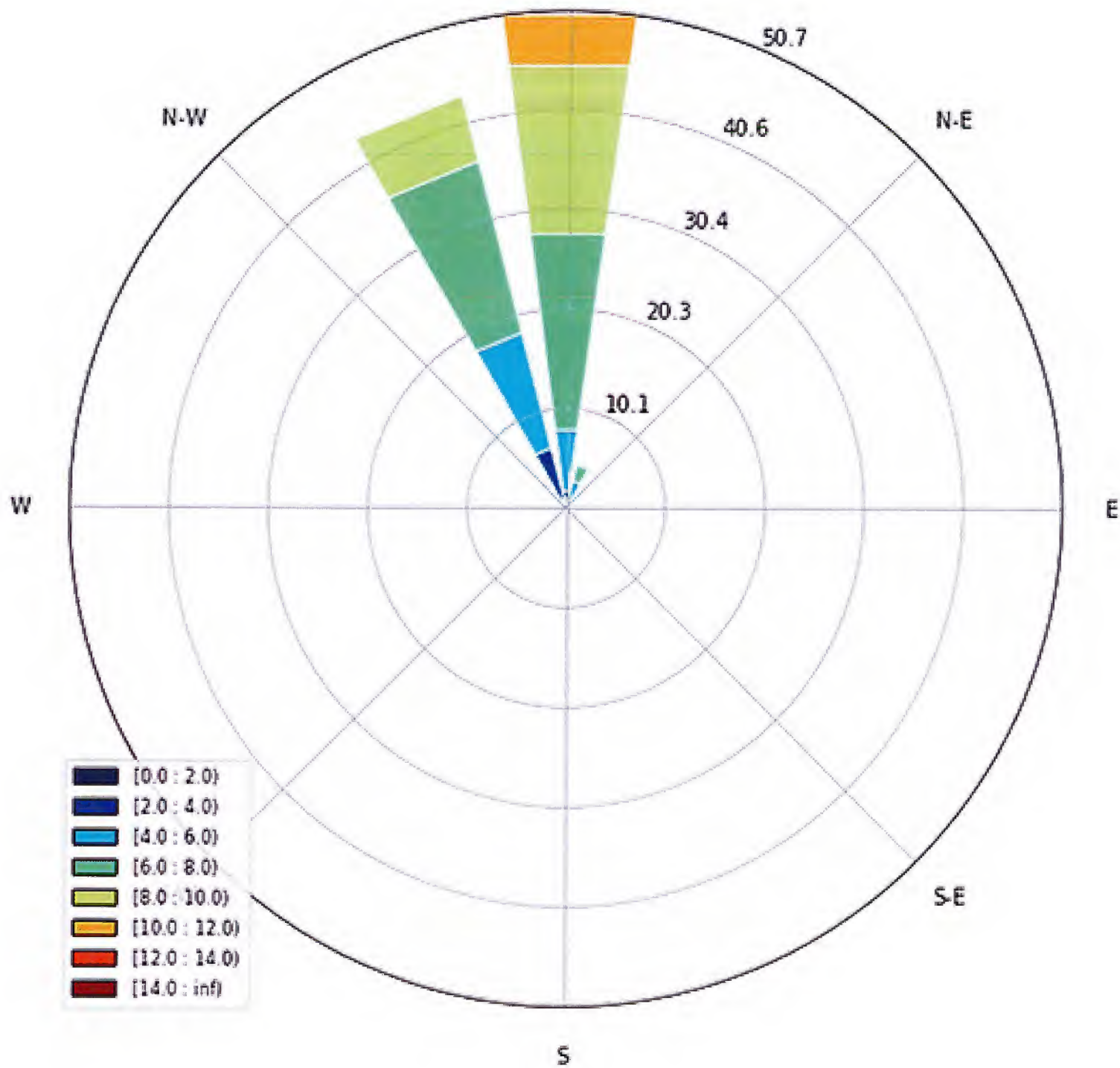
FPC: Nov 17 2018



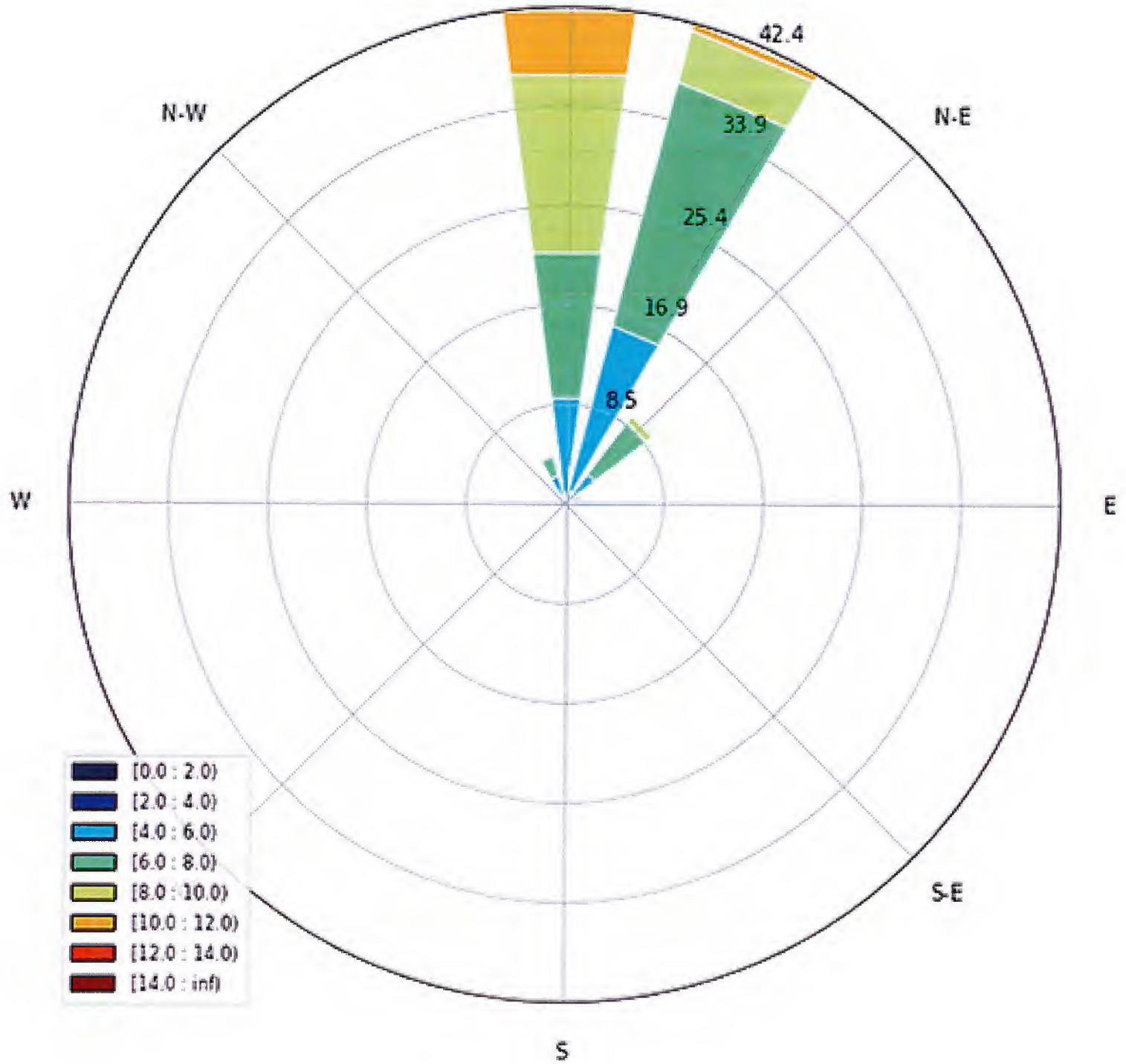
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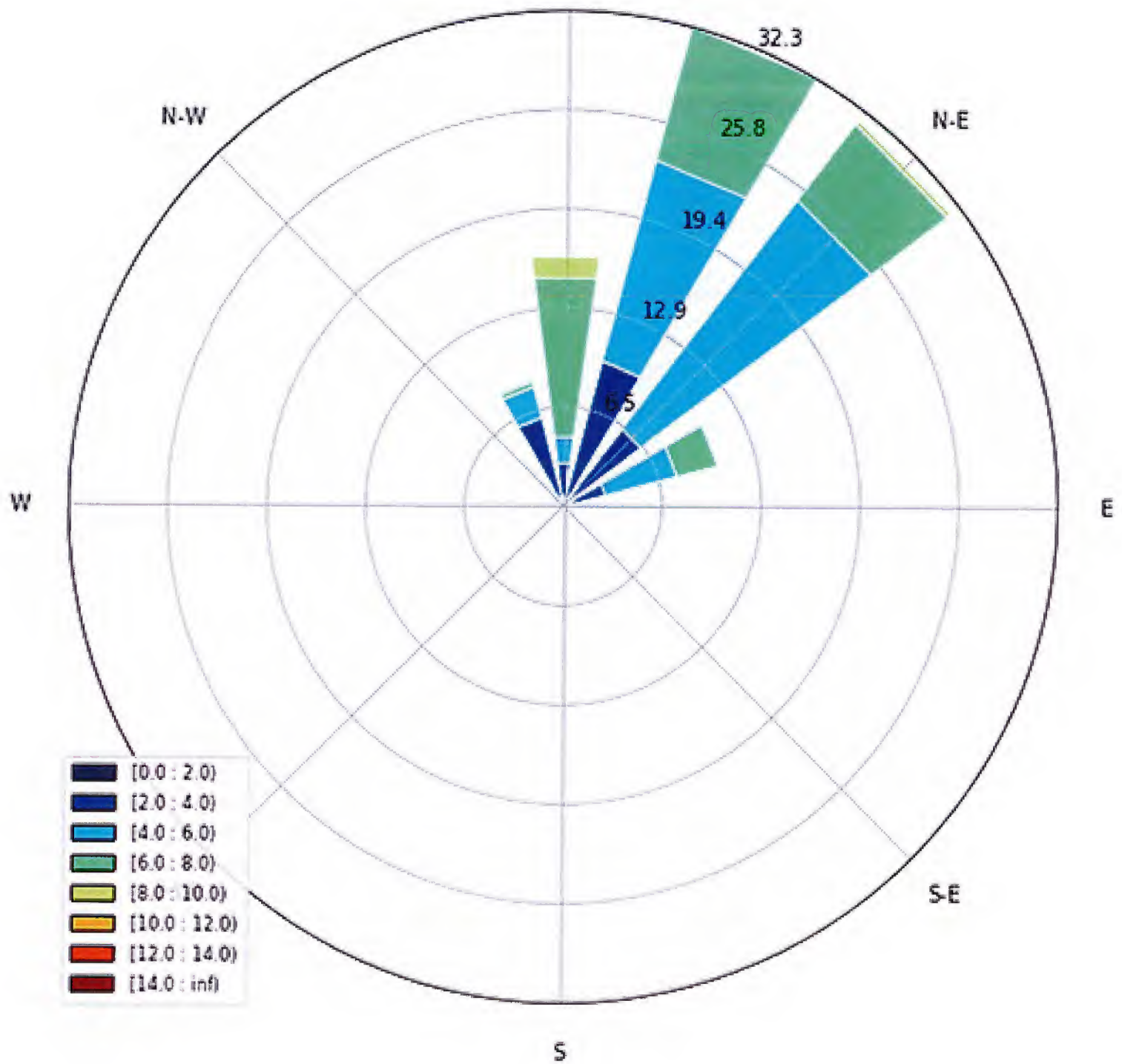
FPC: Nov 20 2018



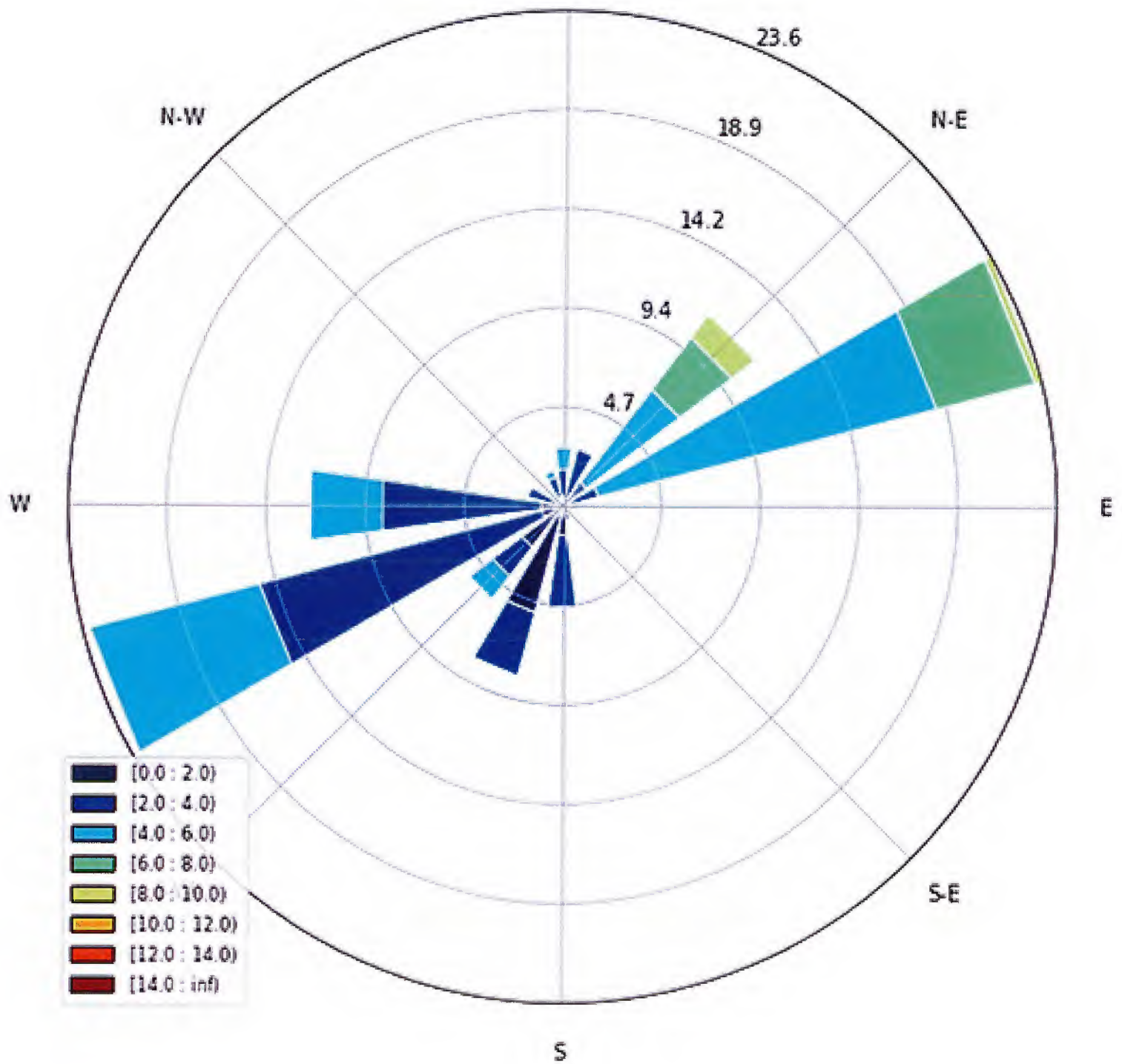
FPC: Nov 21 2018



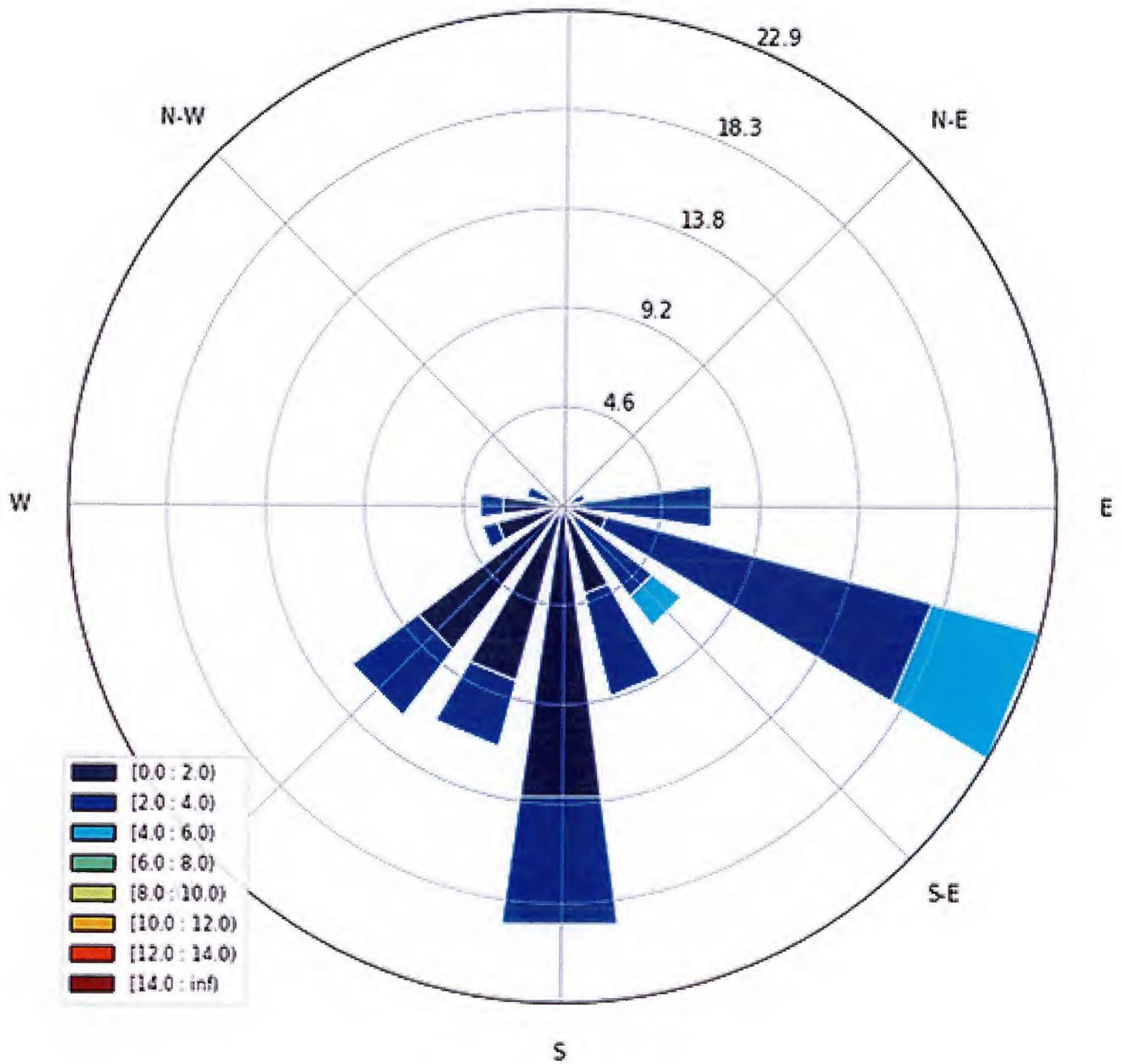
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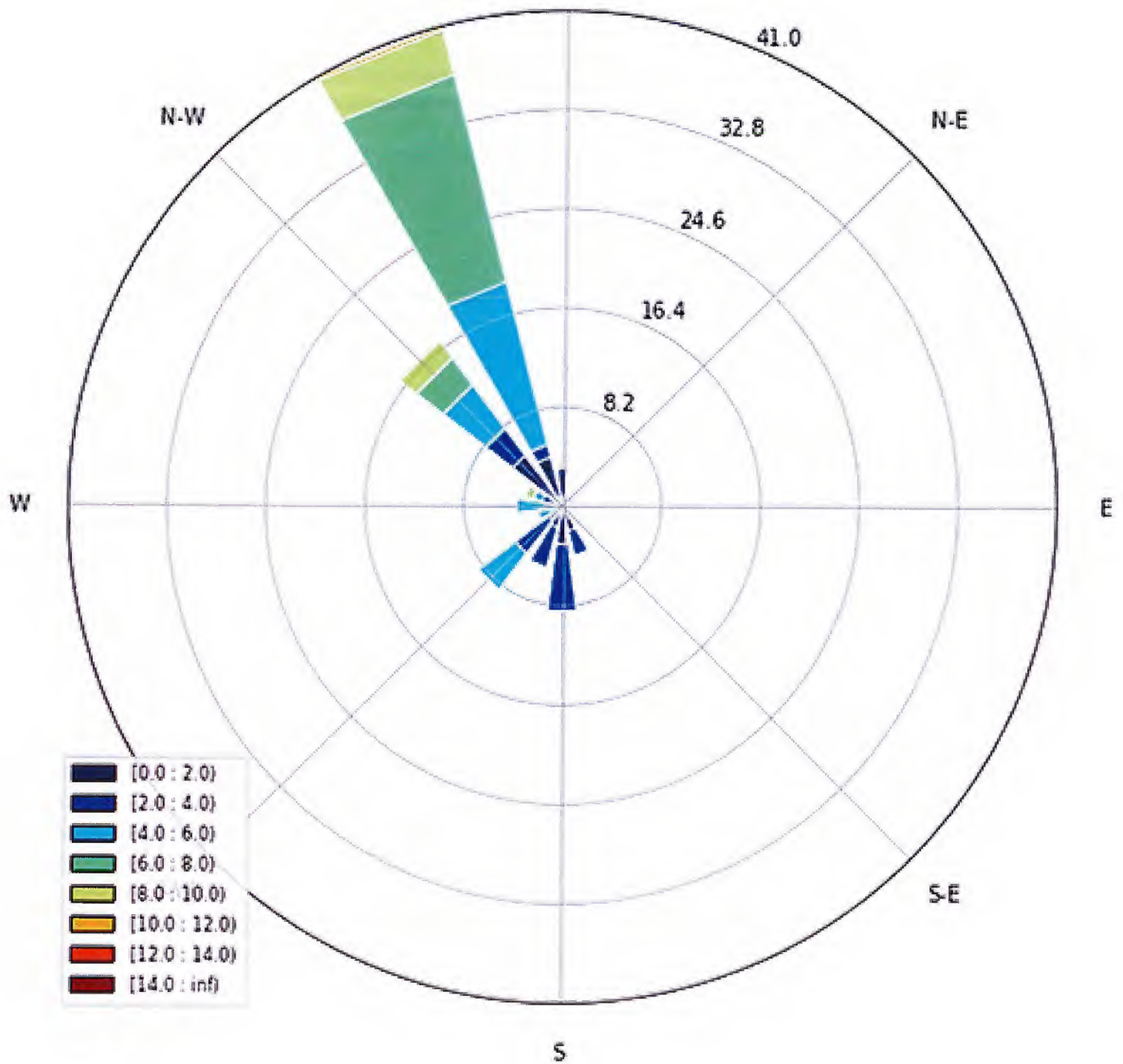
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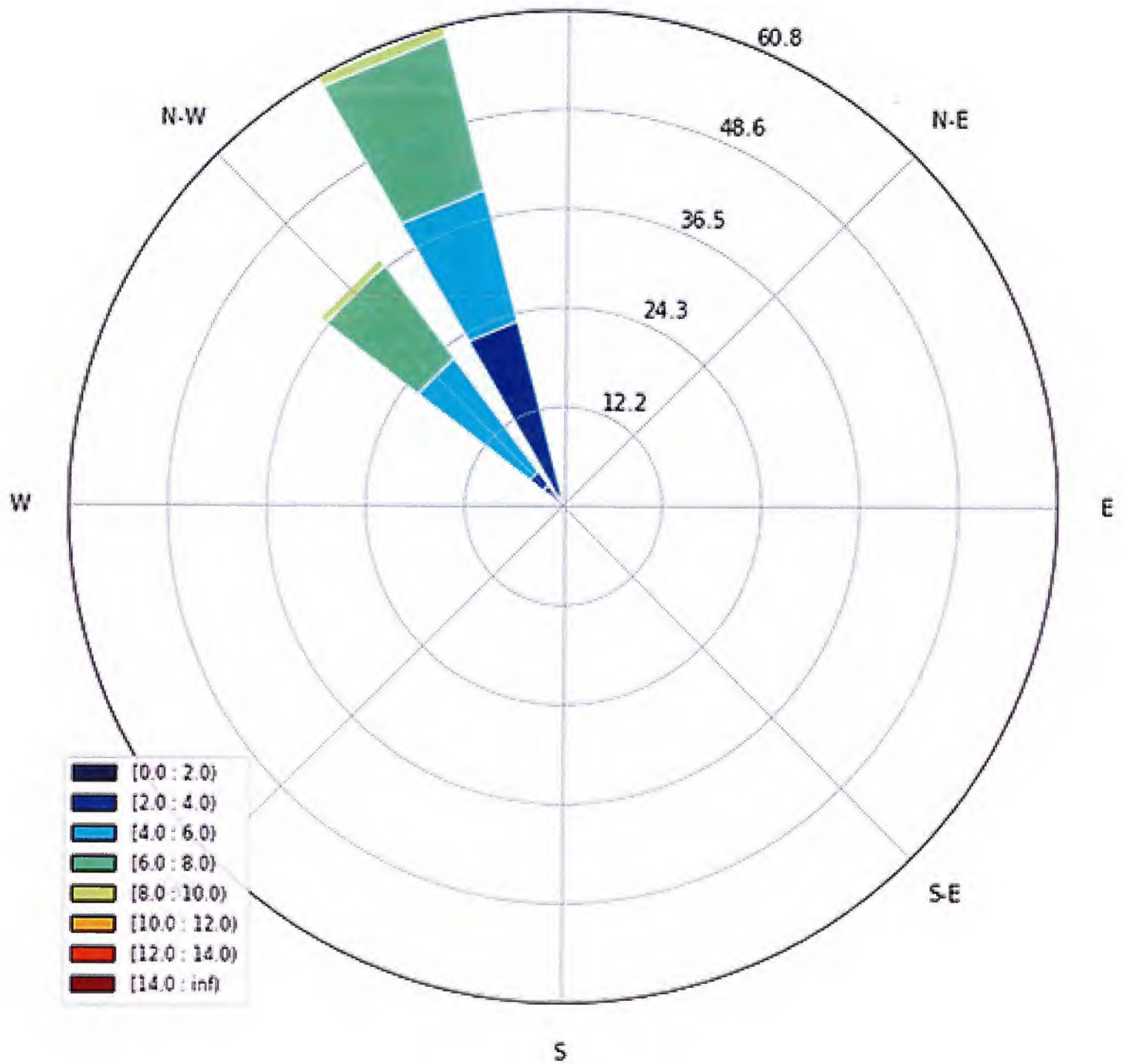
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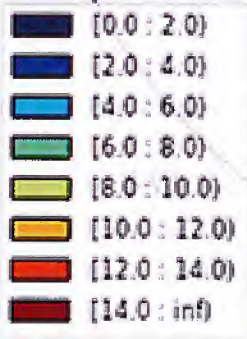
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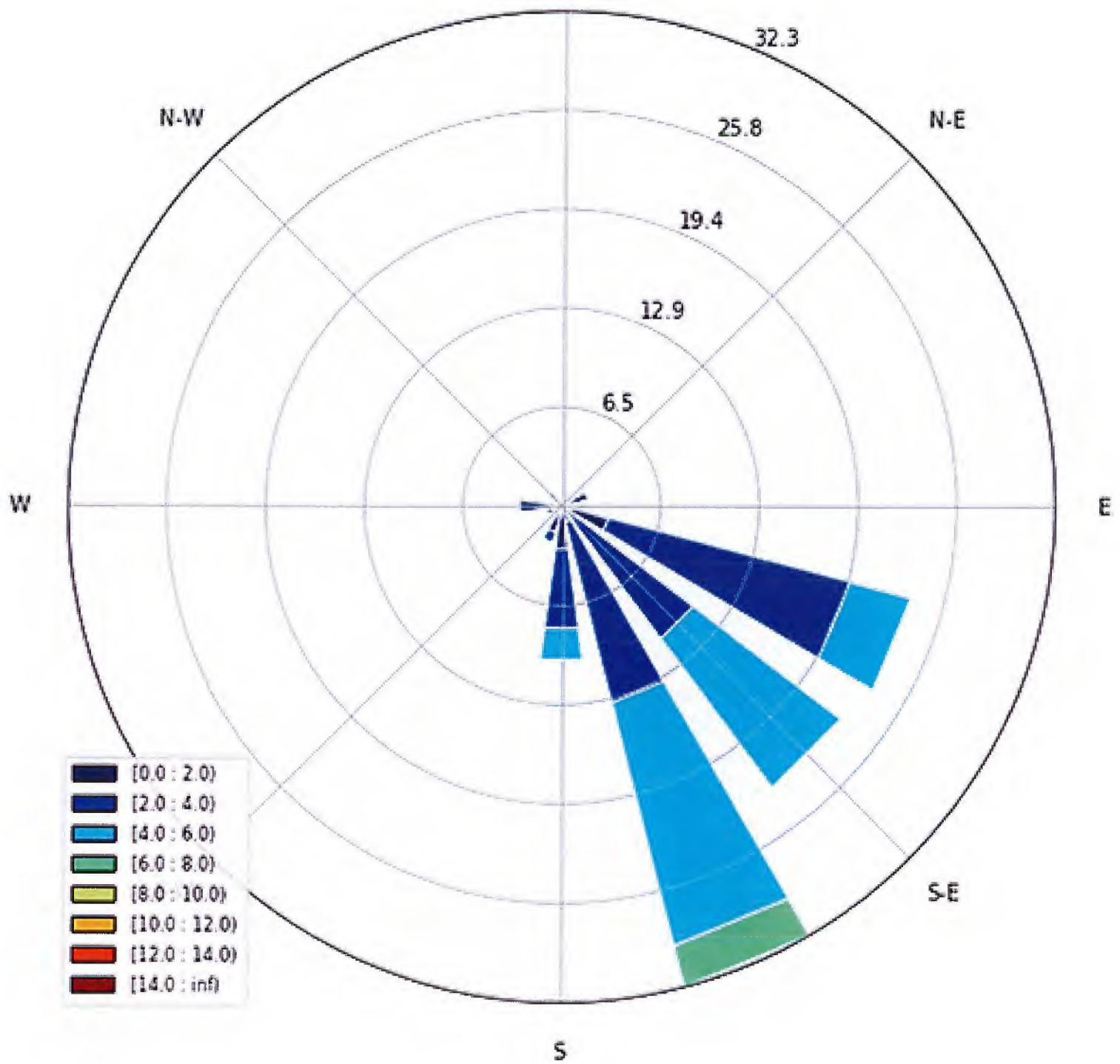
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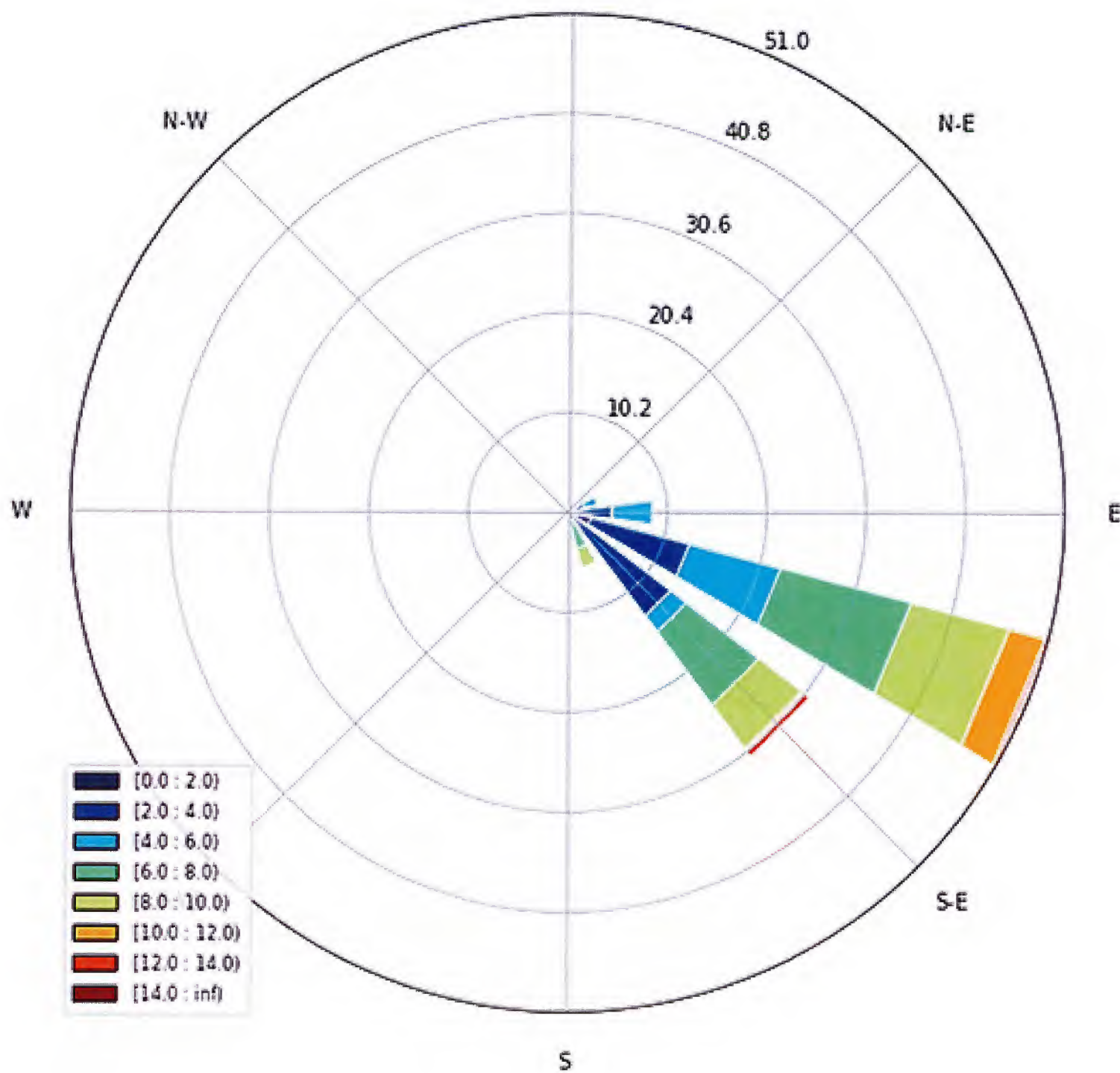
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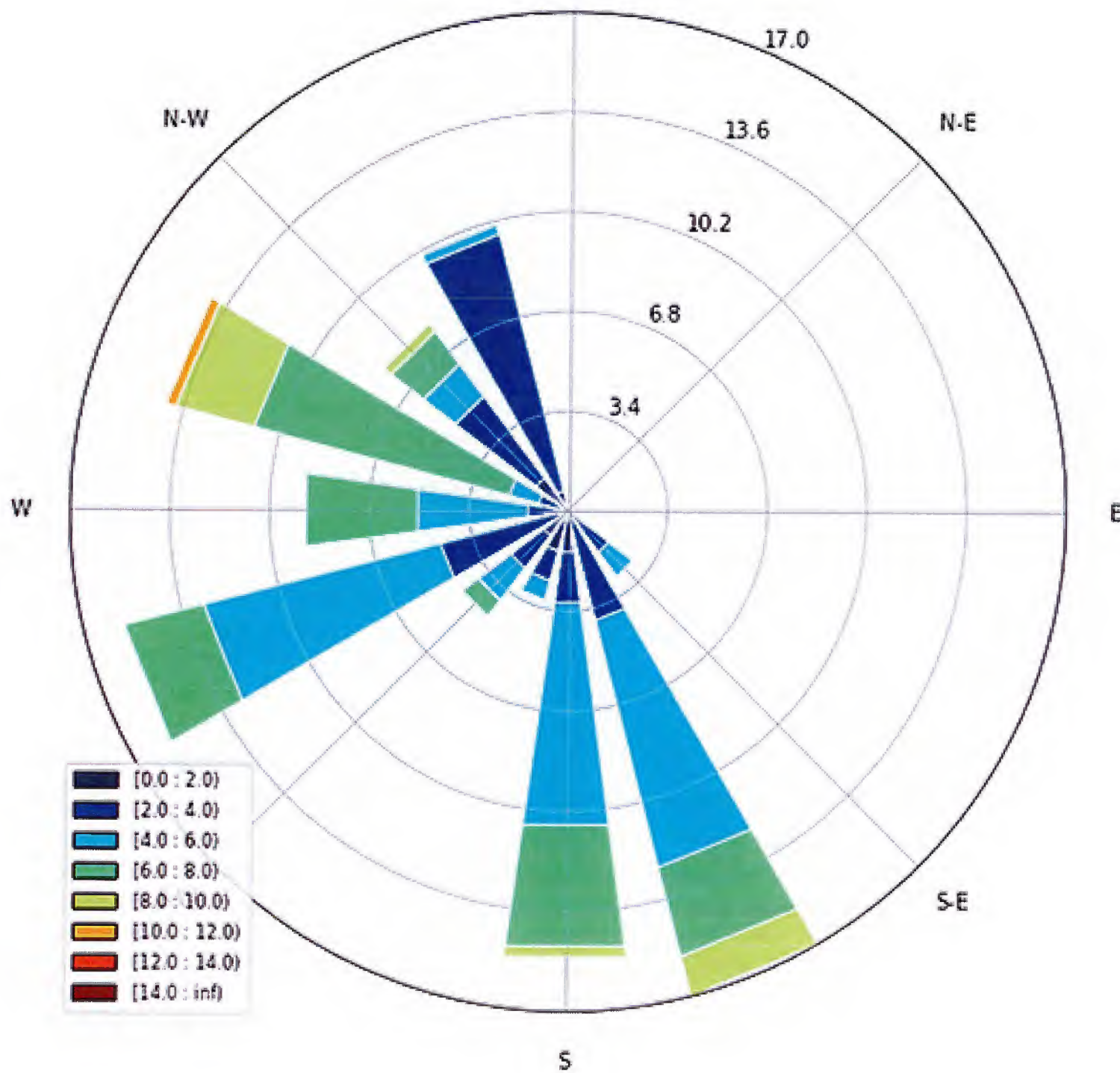
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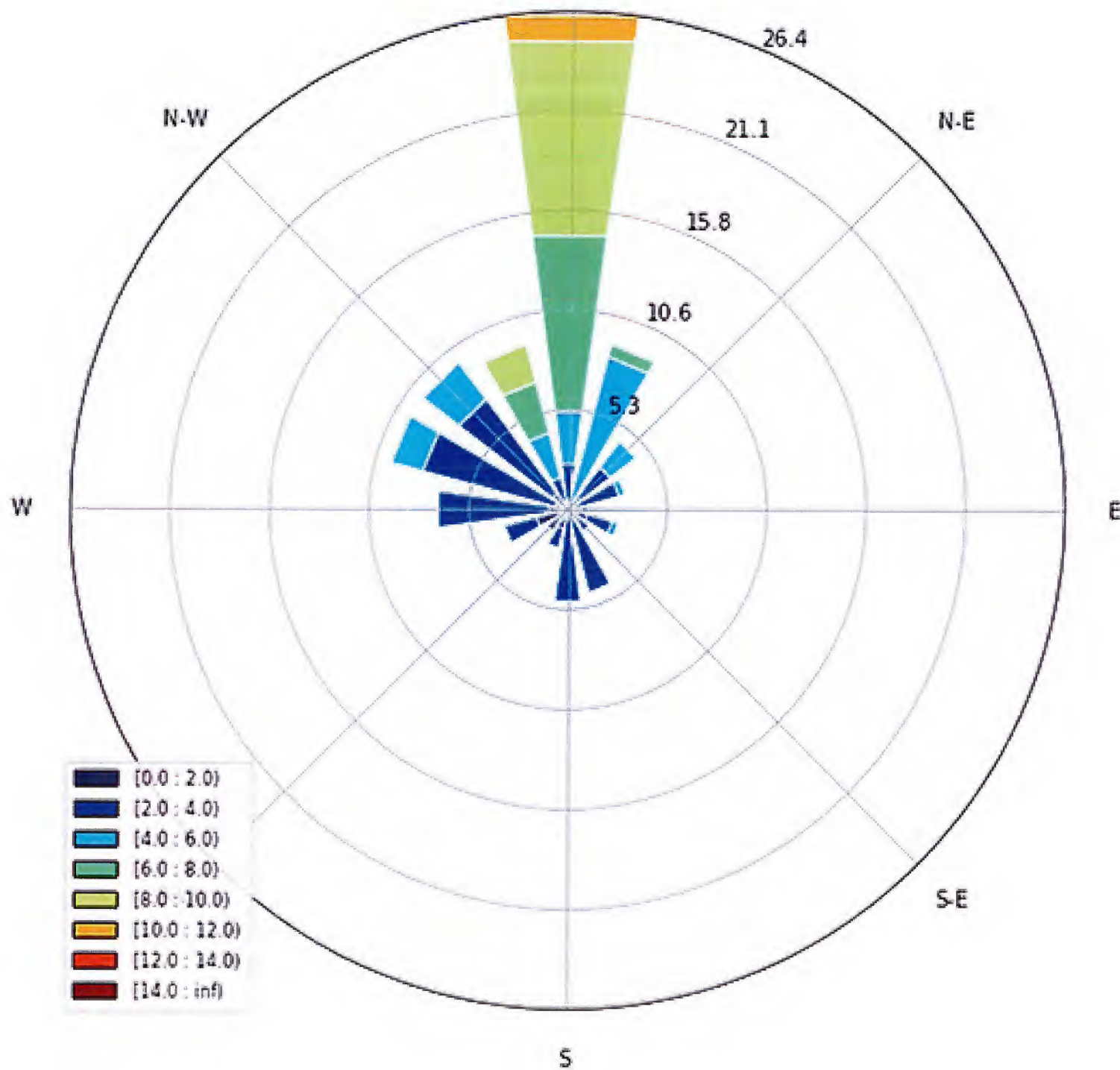
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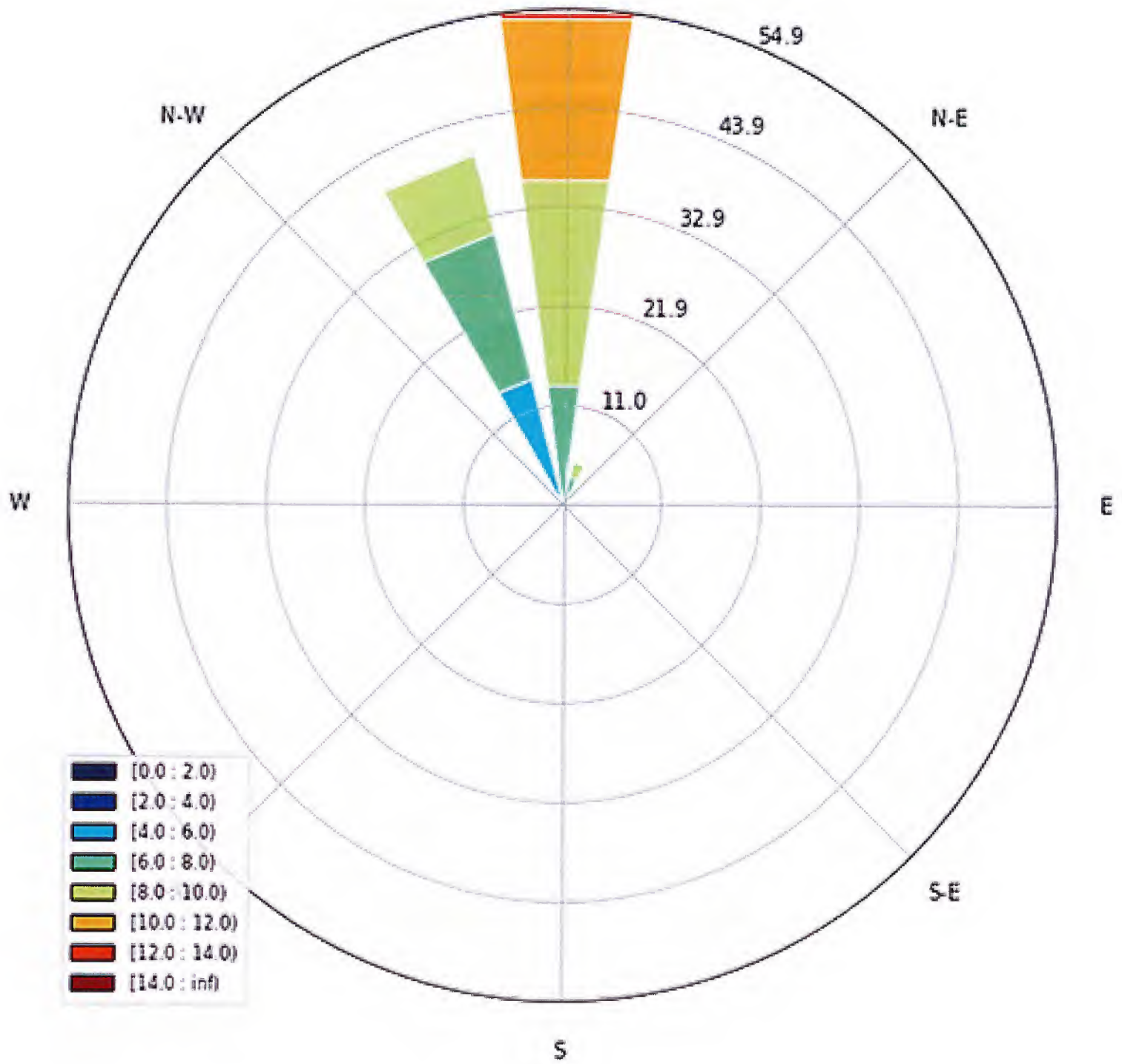
24



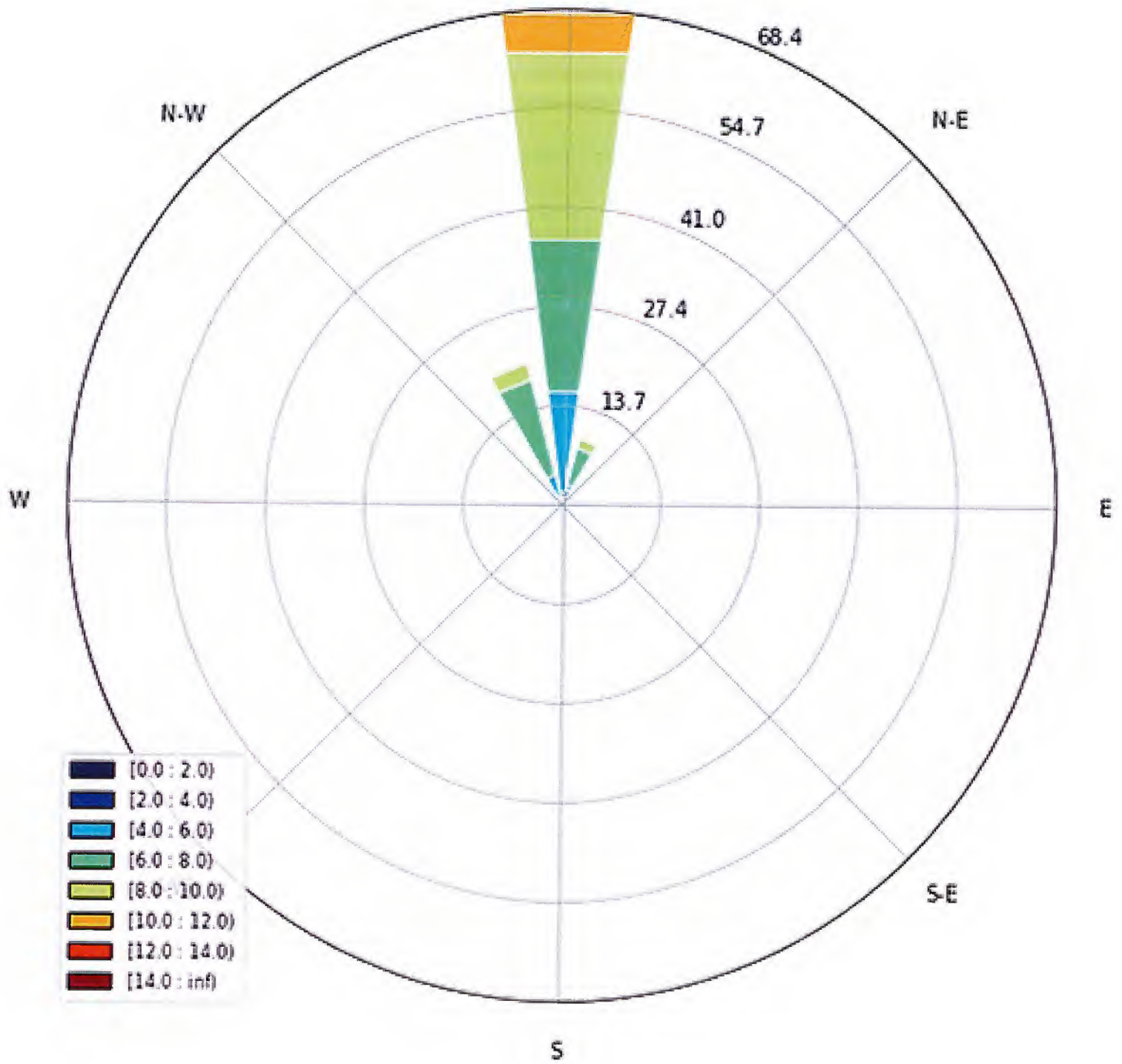
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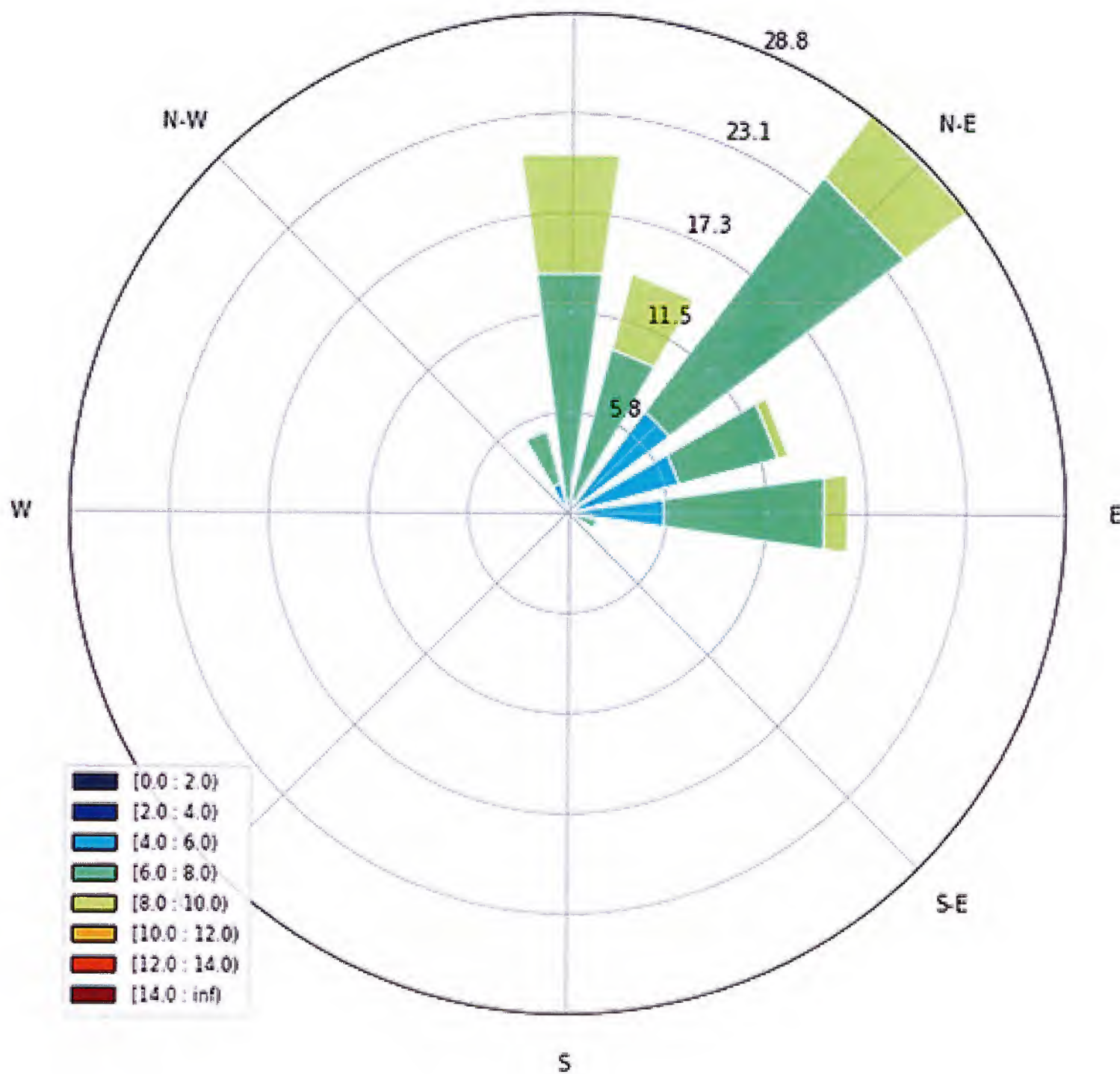
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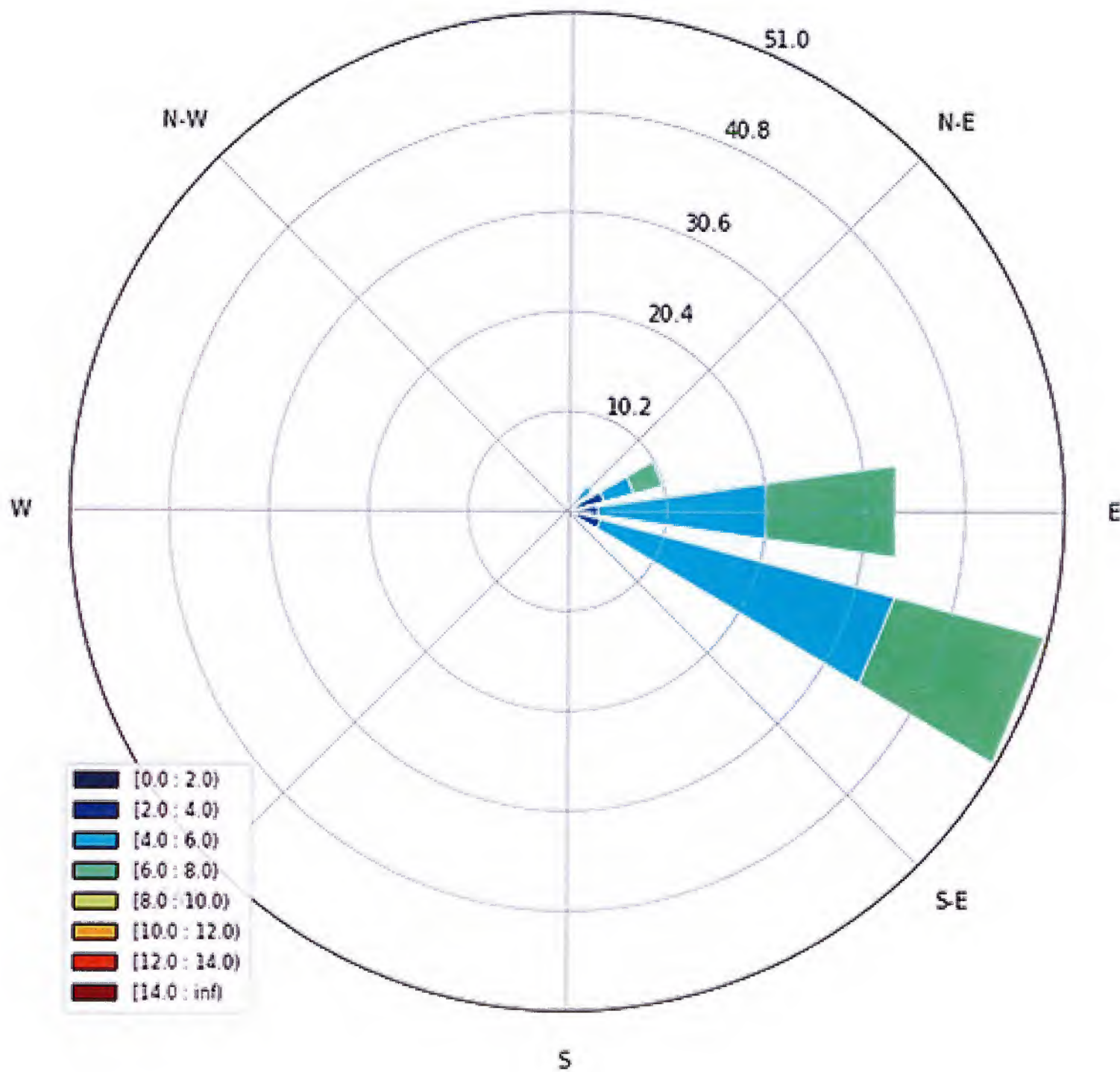
FPC: Dec 4 2018



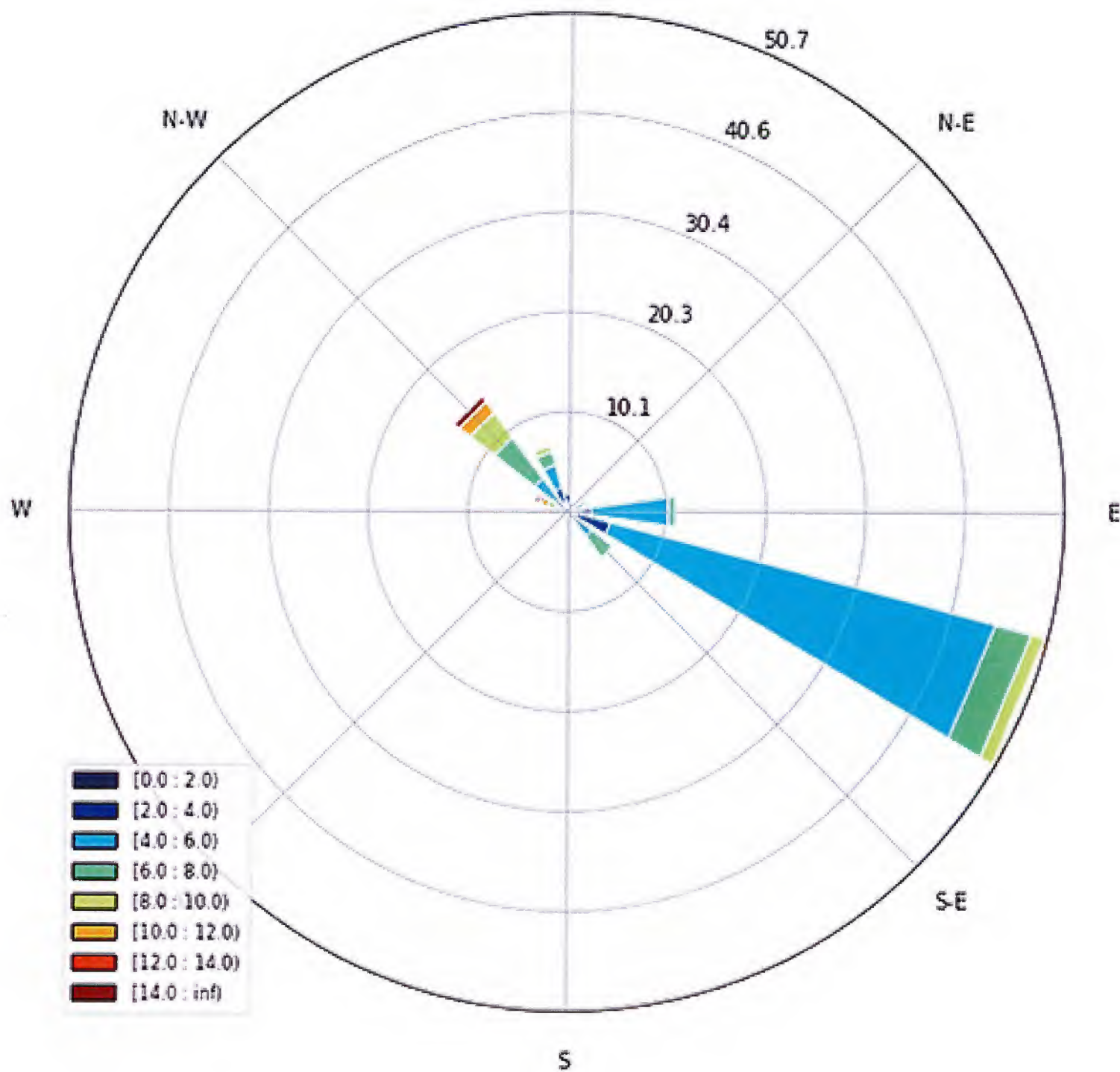
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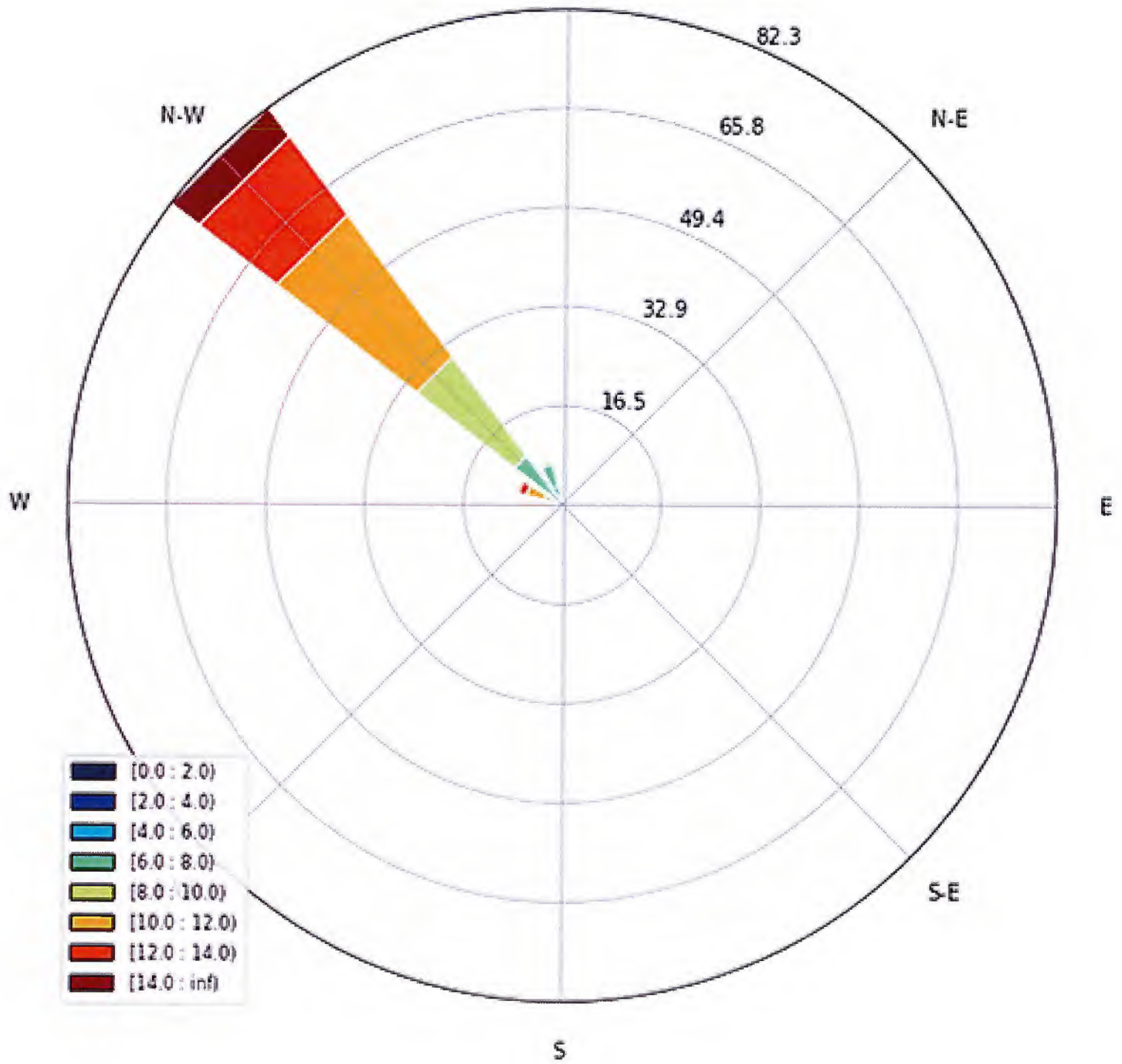
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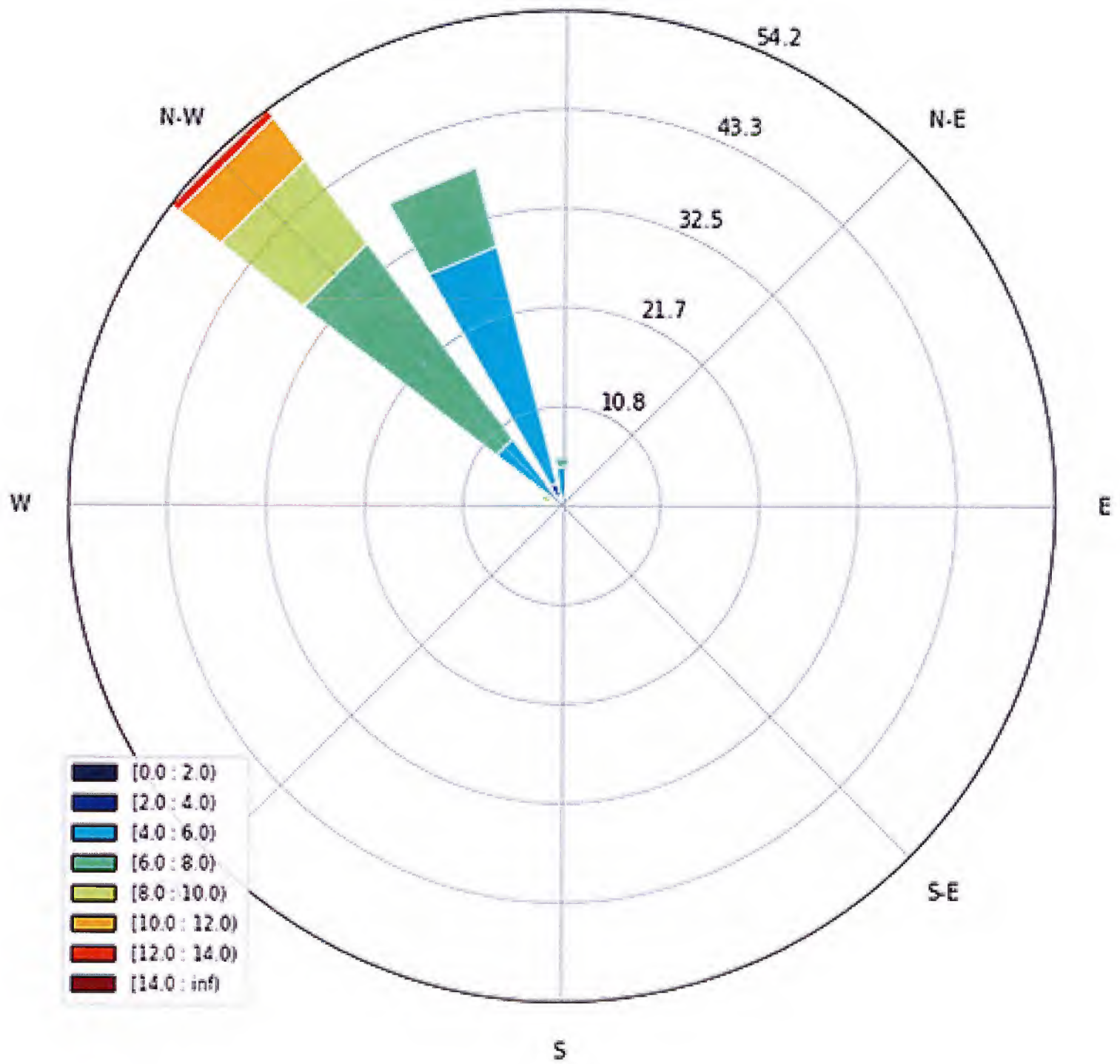
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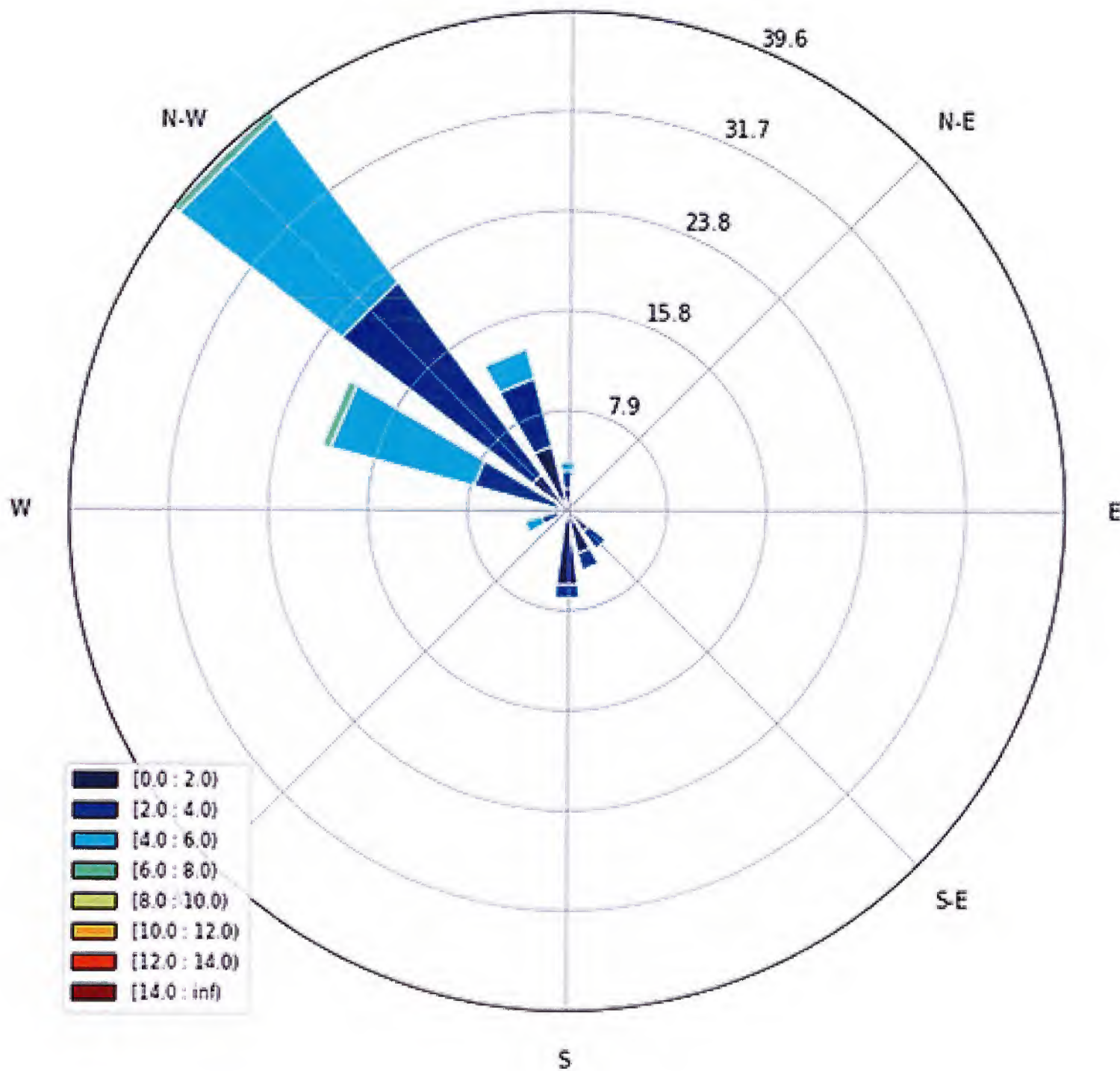
FPC: Dec 8 2018



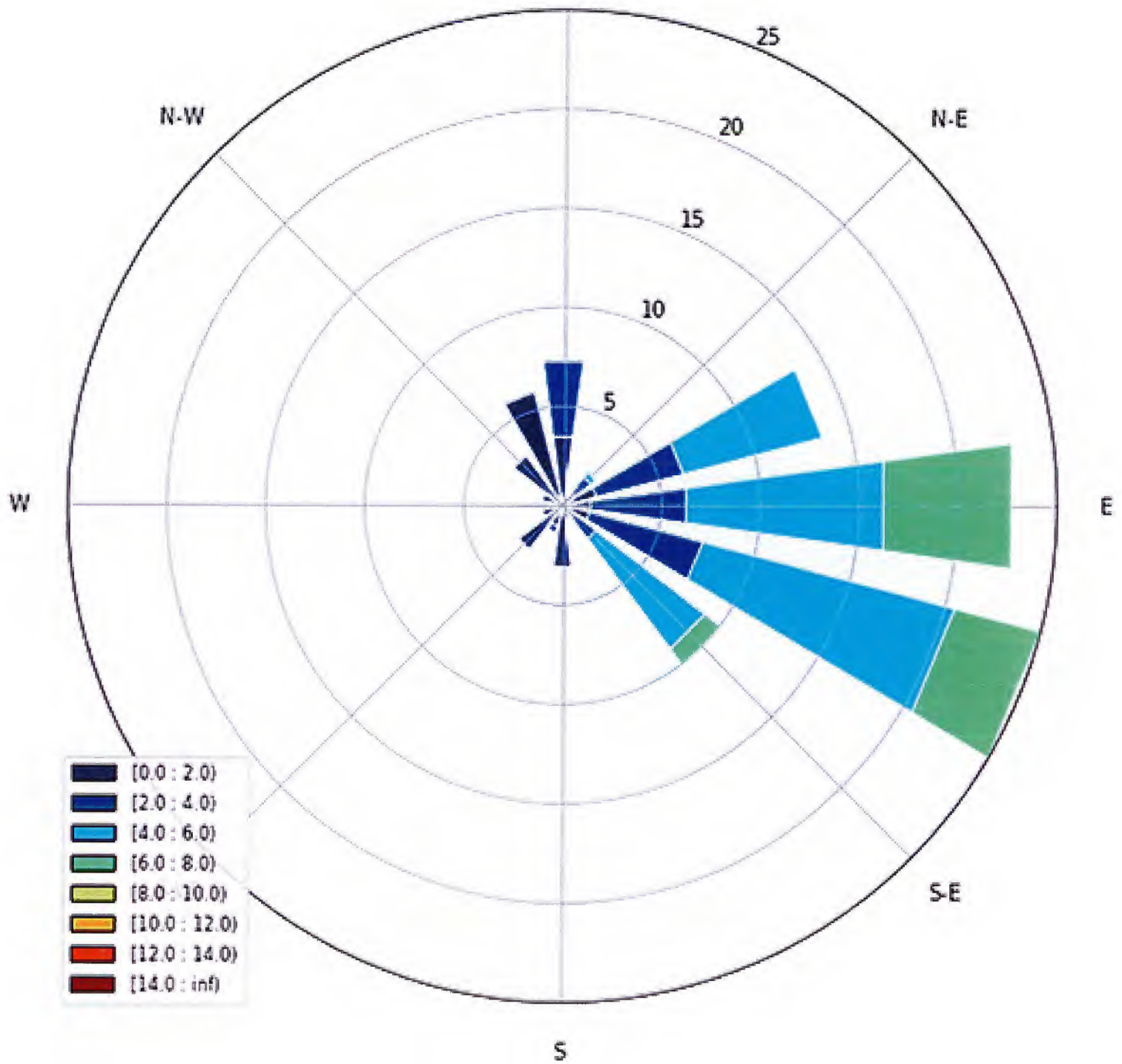
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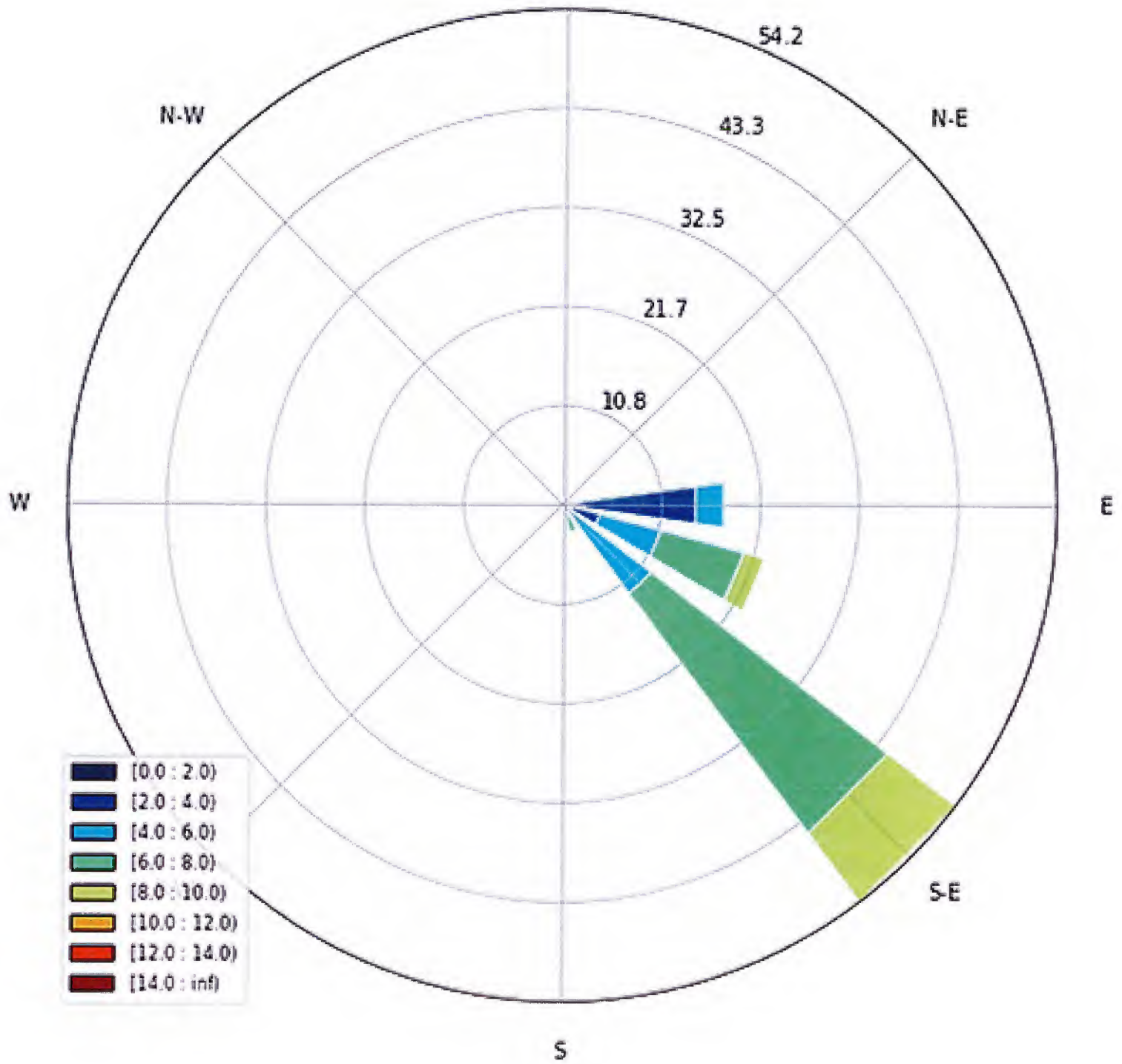
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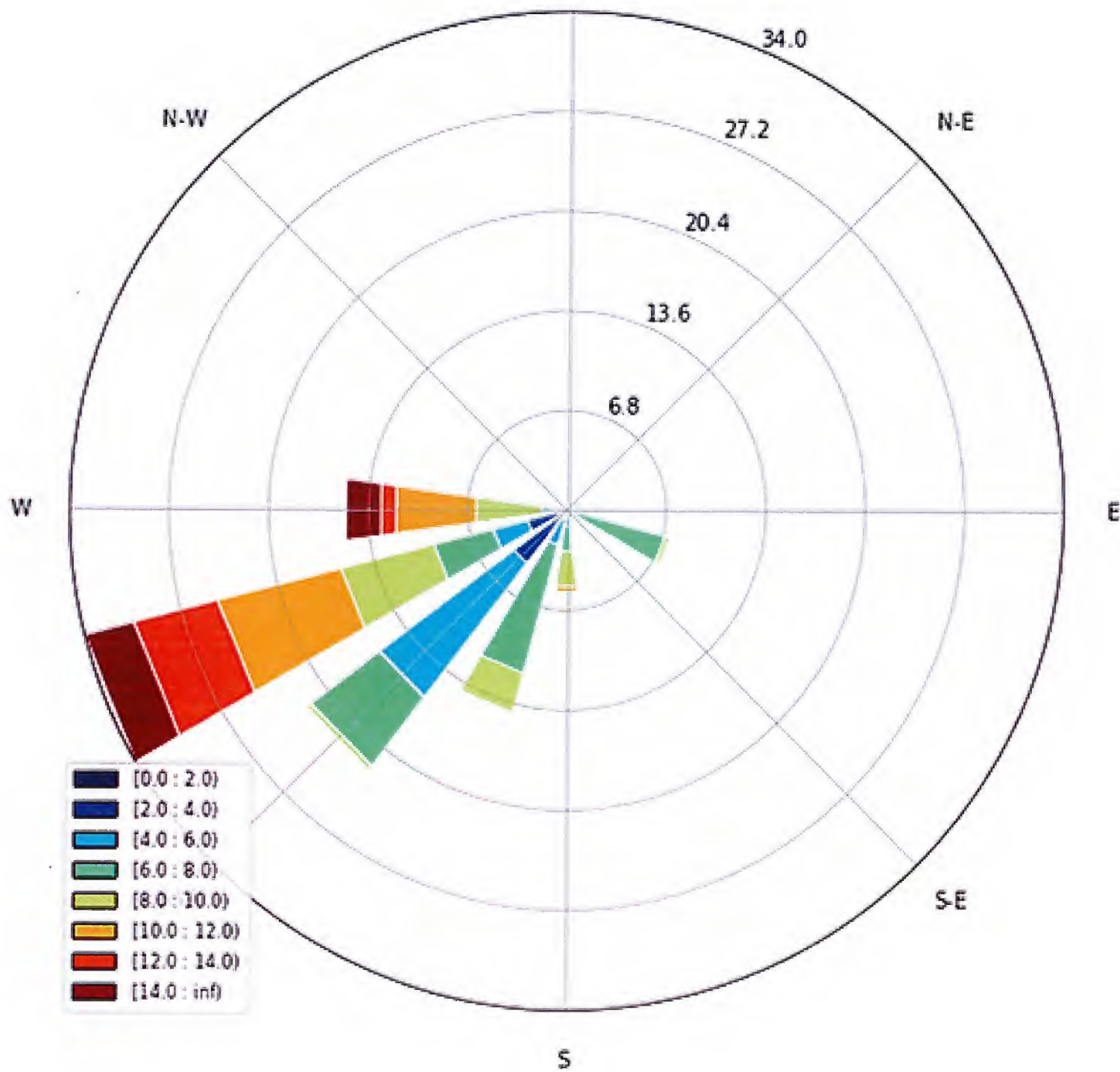
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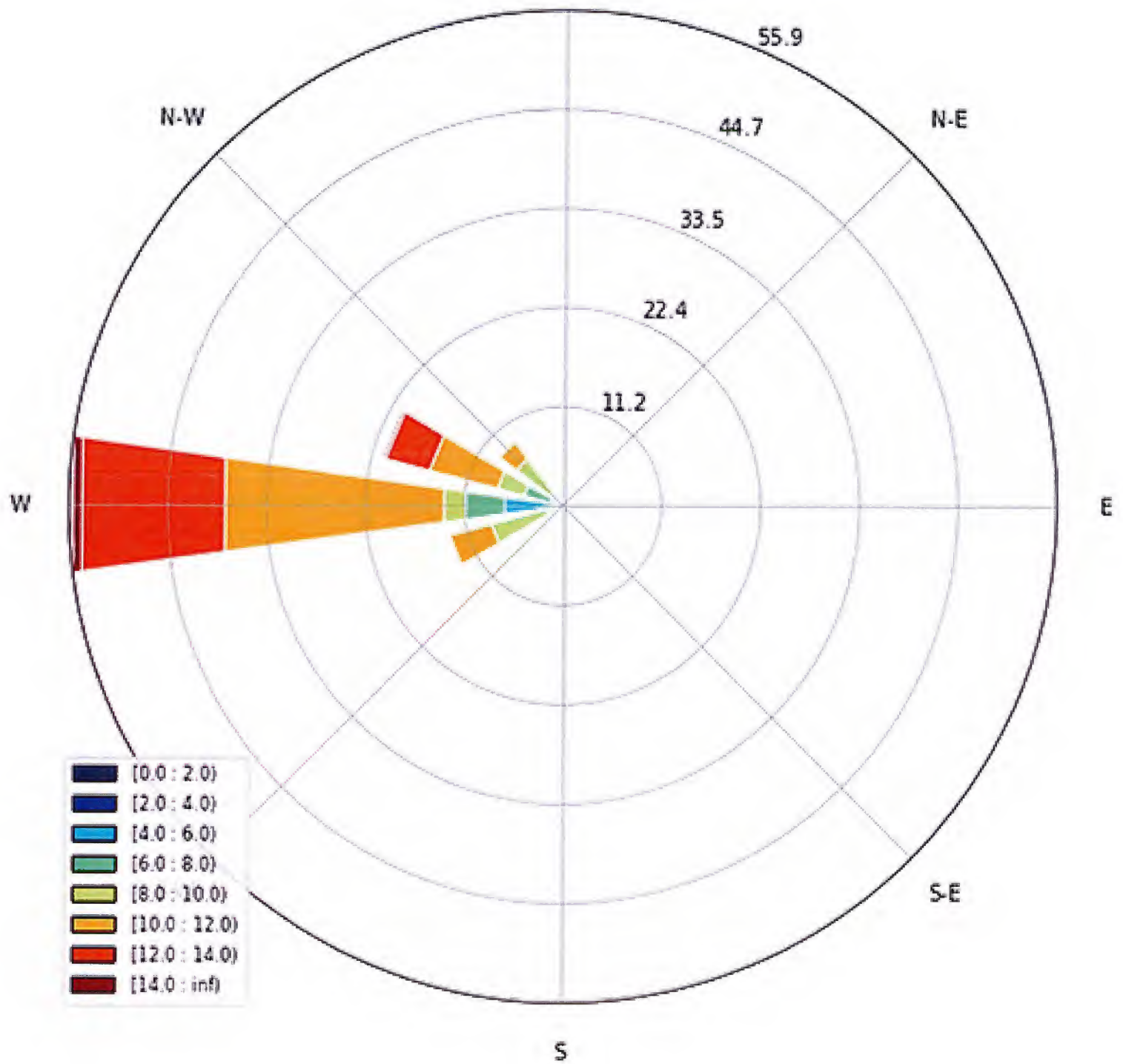
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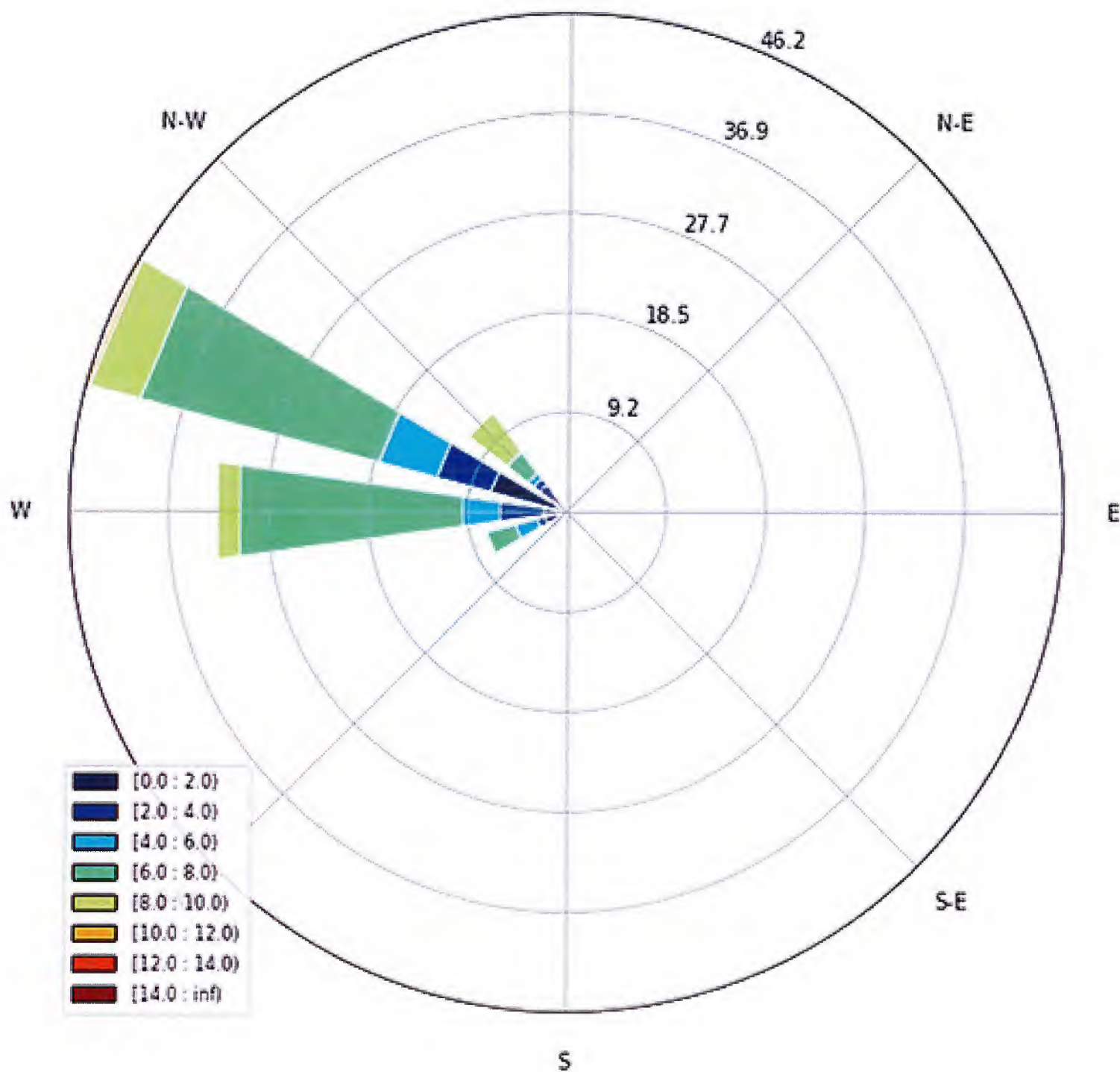
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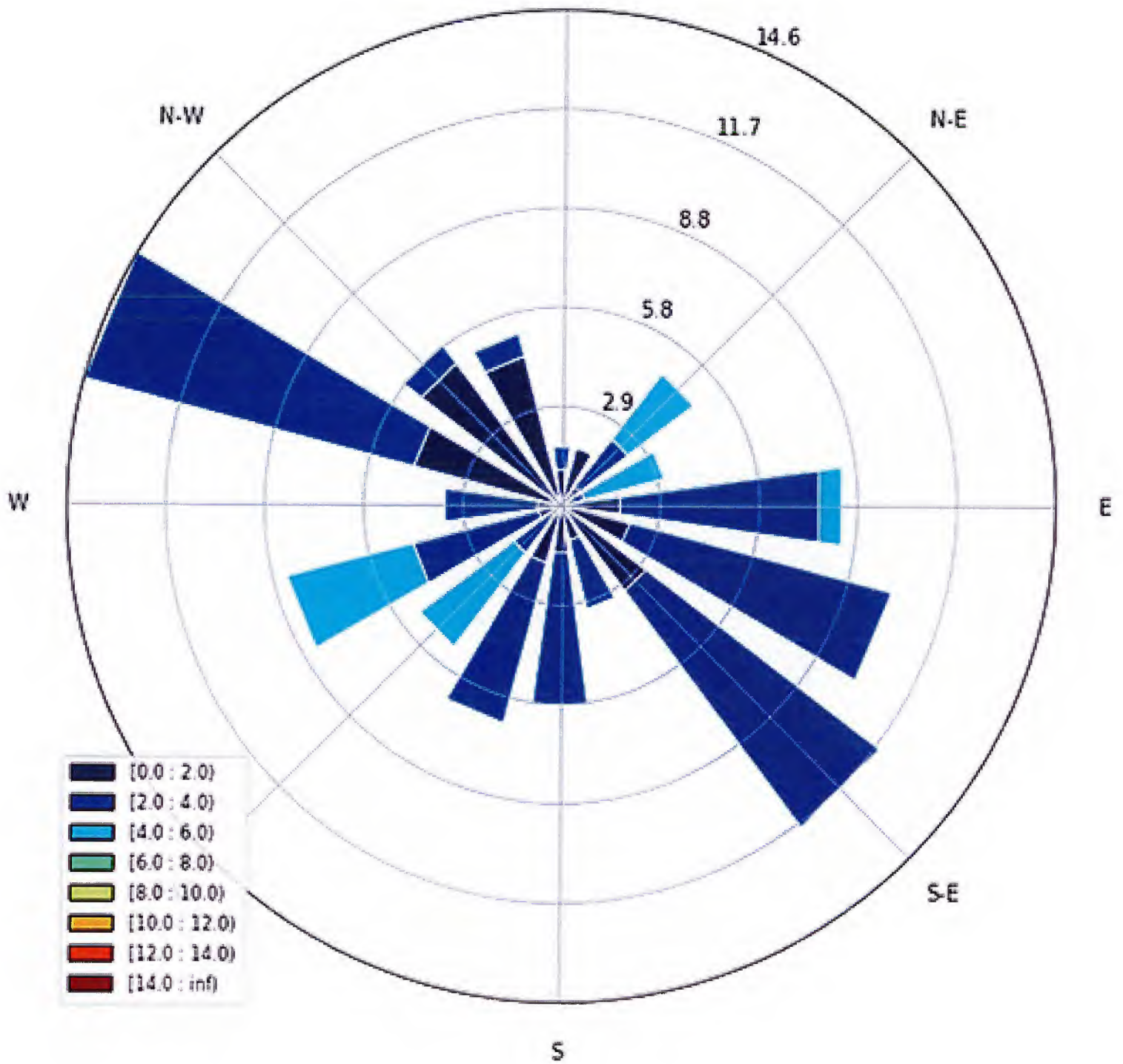
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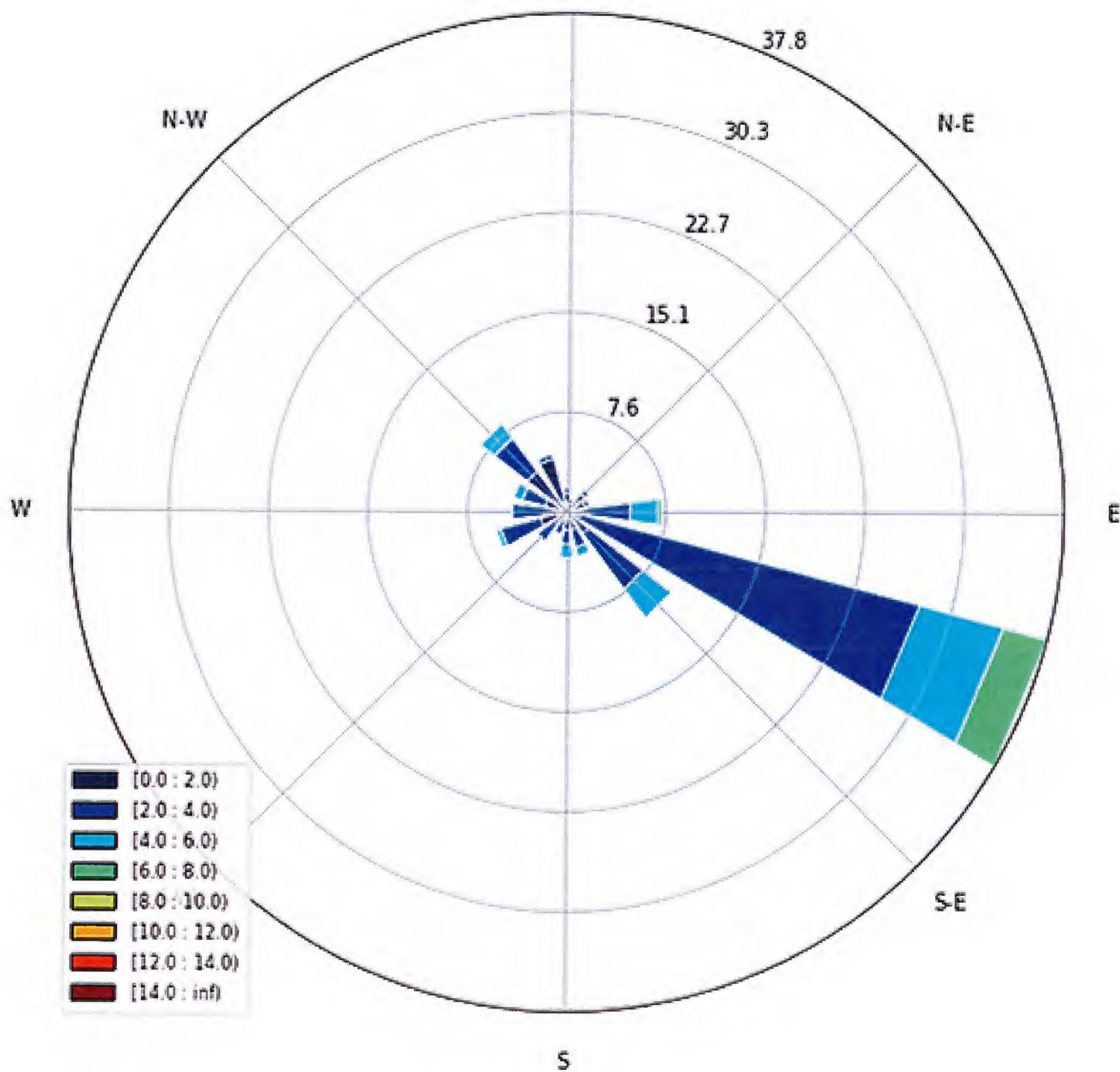
FPC: Dec 15 2018



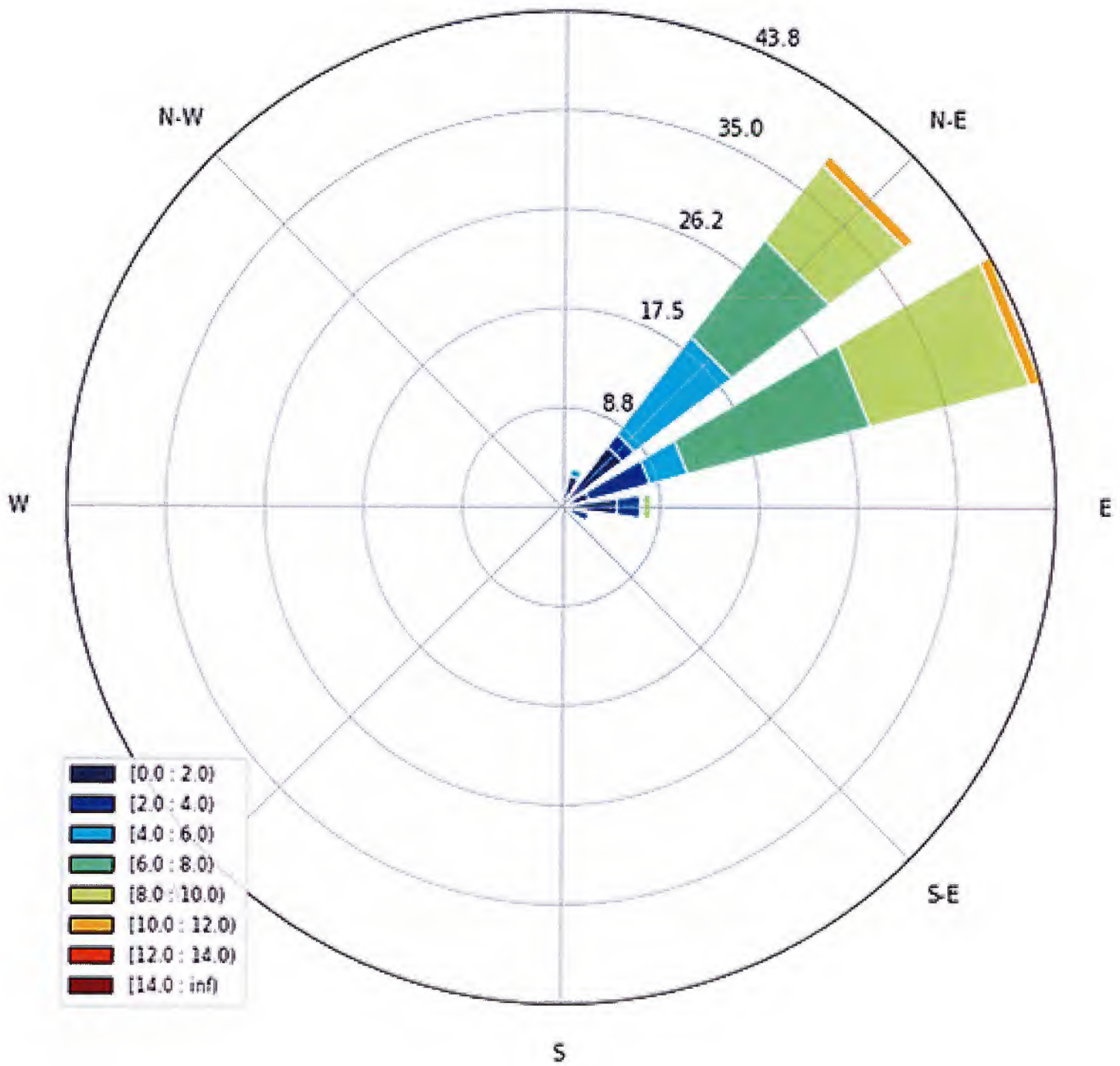
FPC: Dec 16 2018



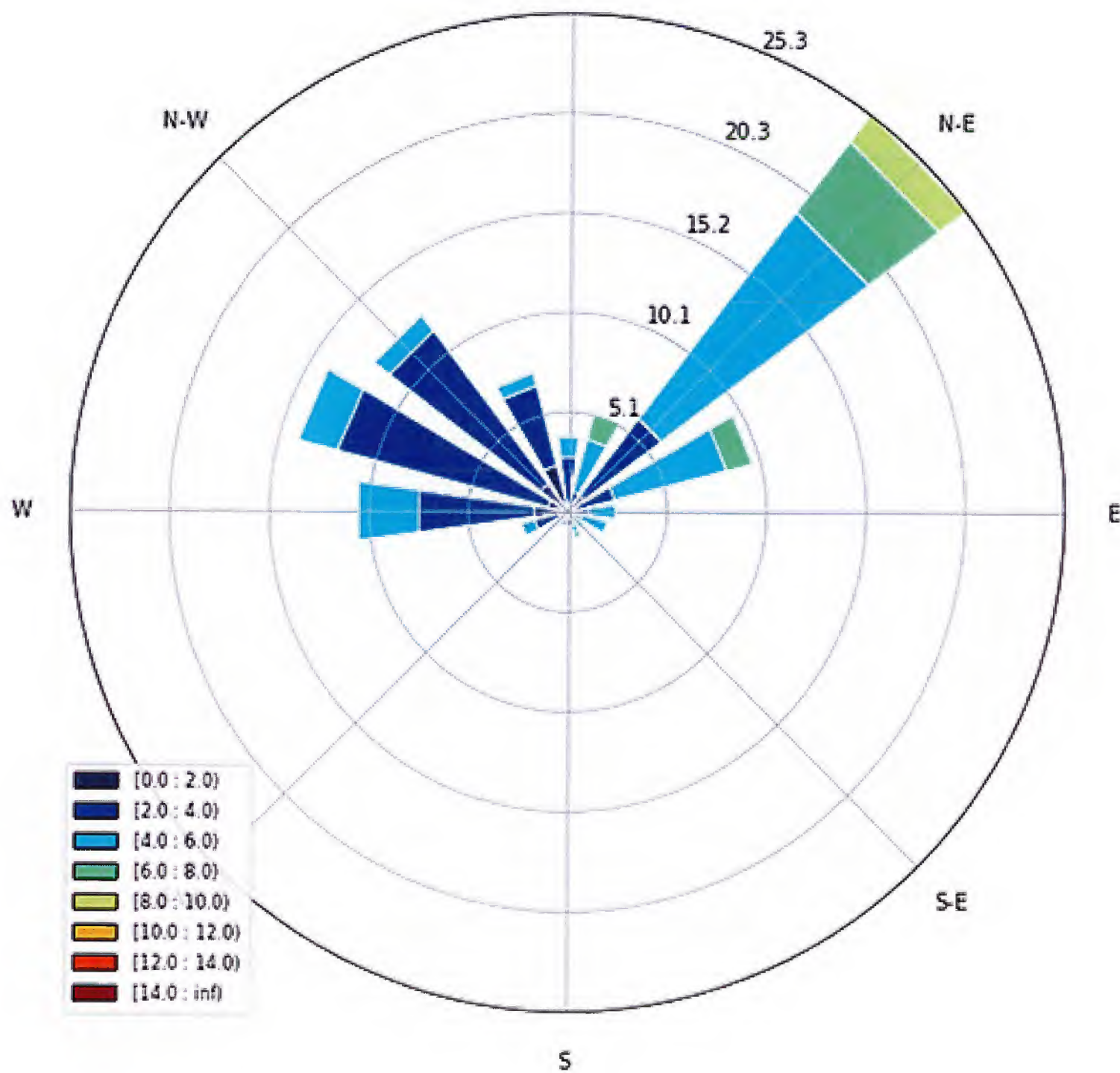
FPC: Dec 17 2018



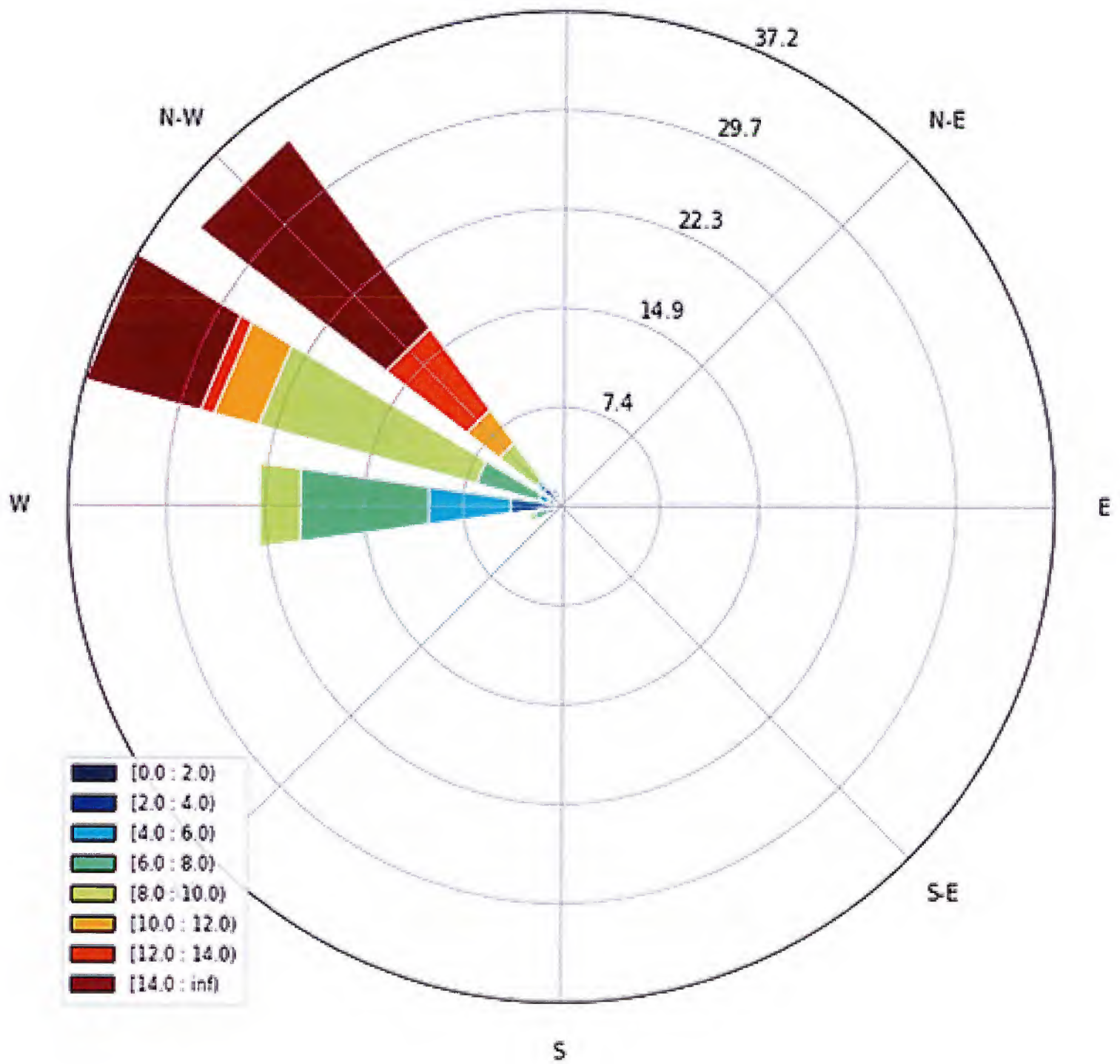
FPC: Dec 18 2018



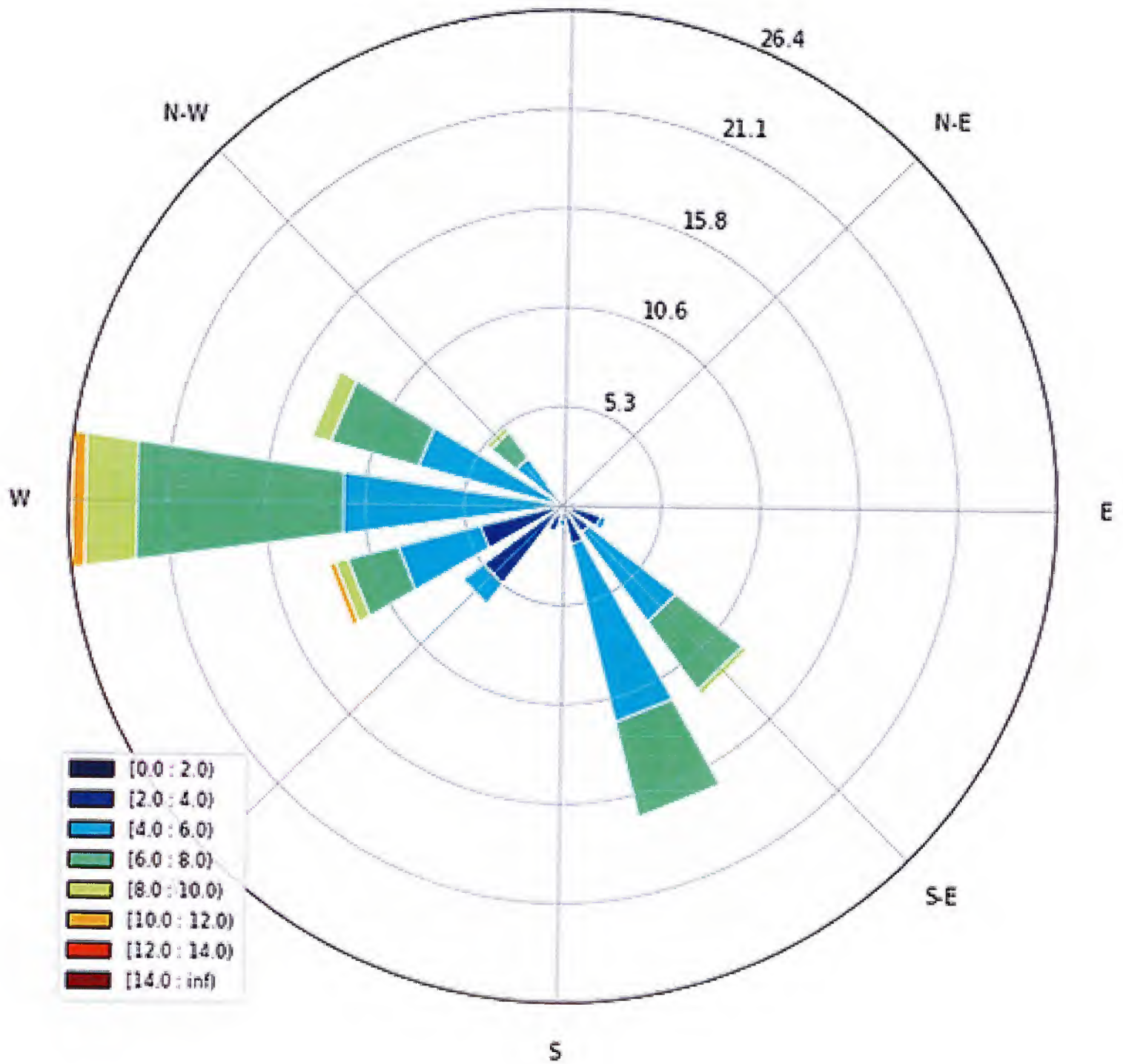
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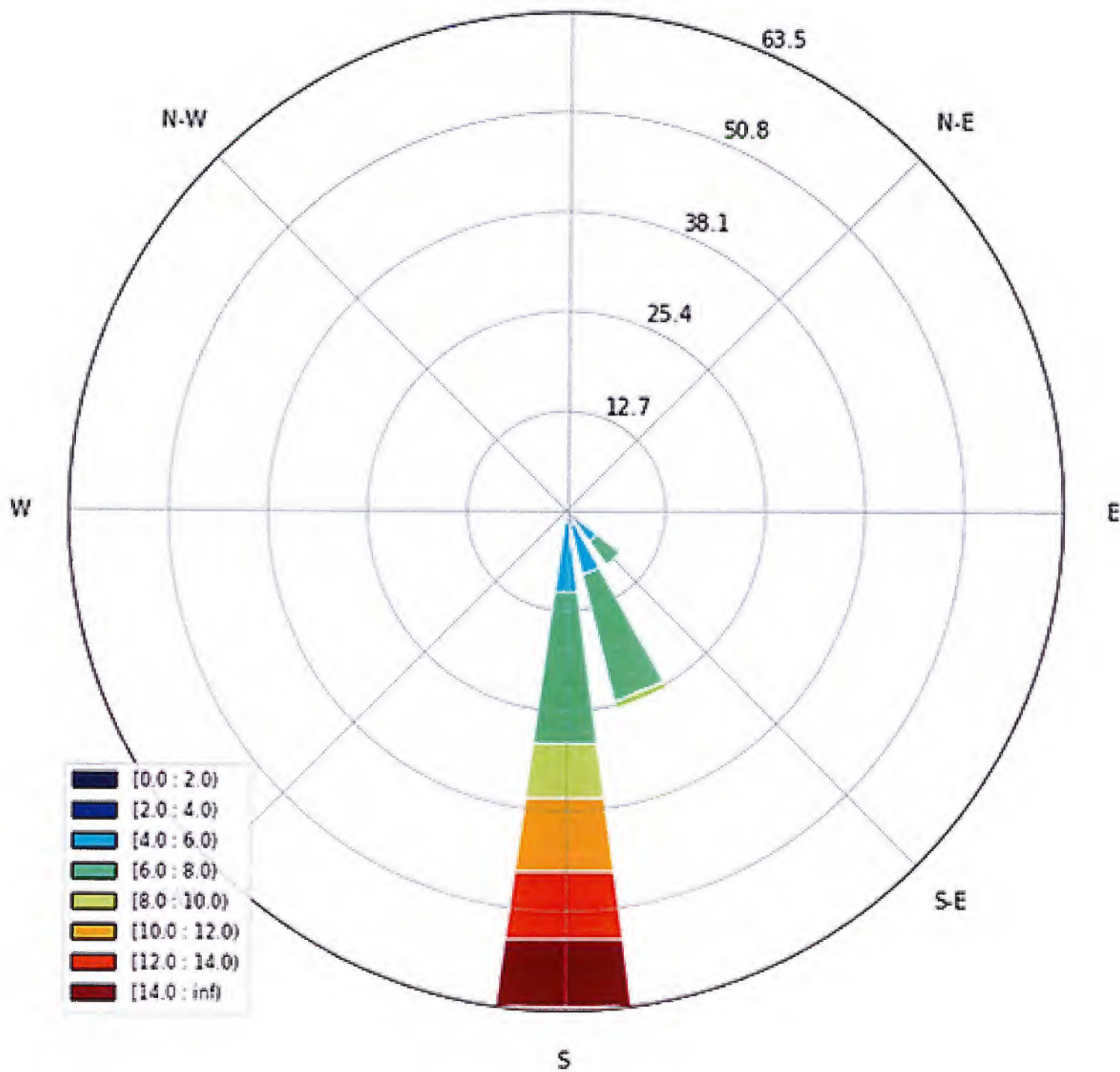
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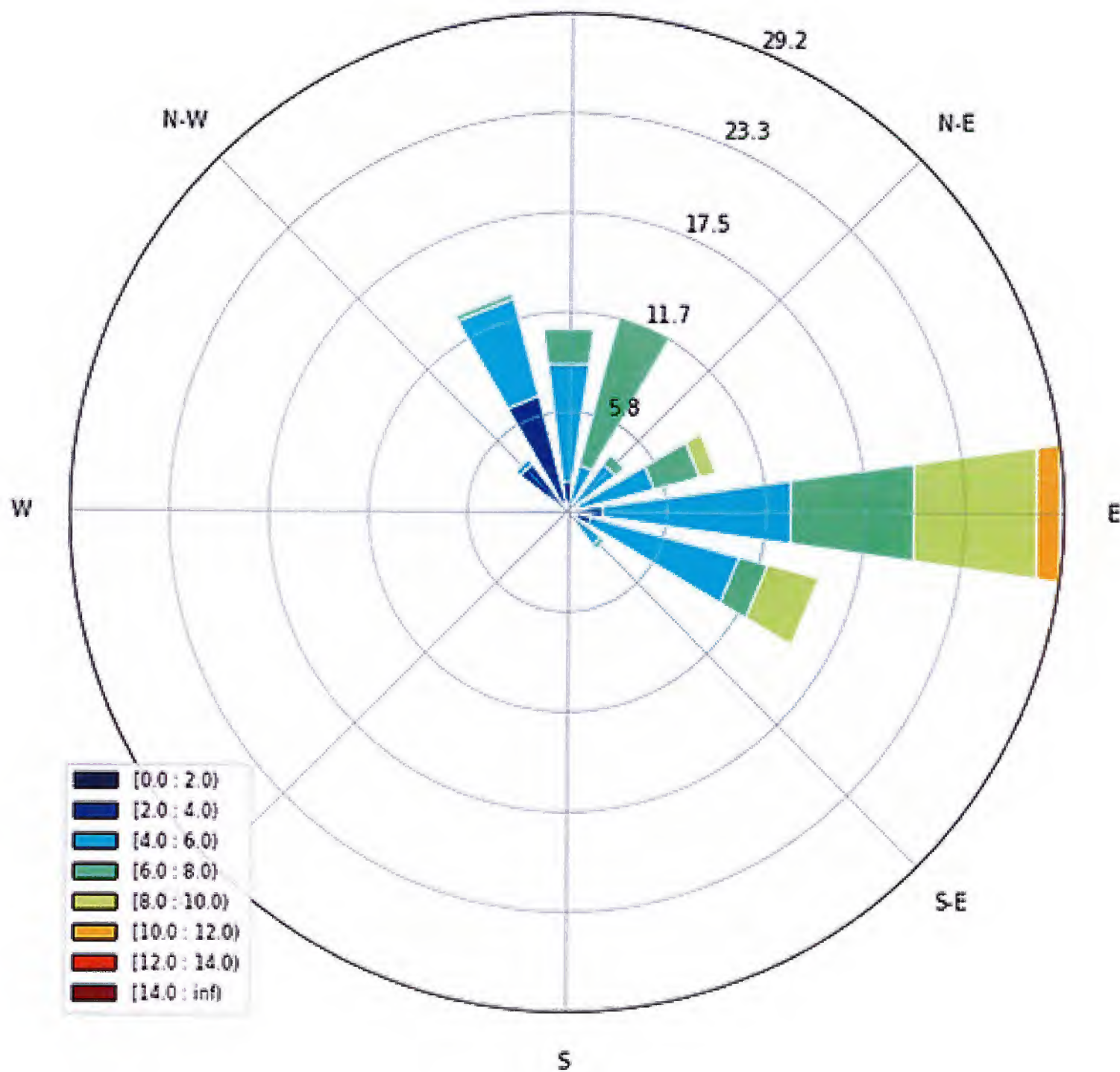
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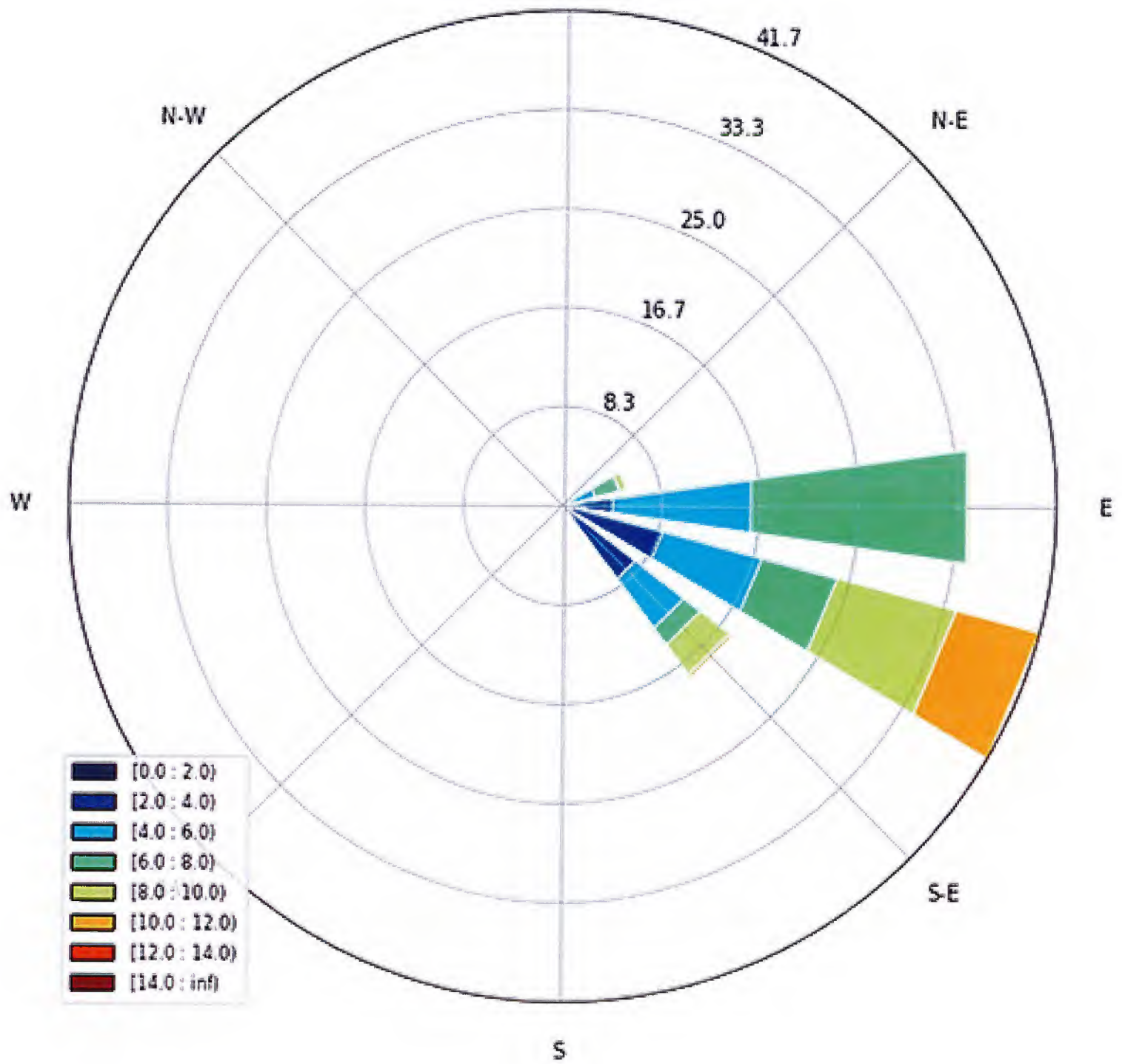
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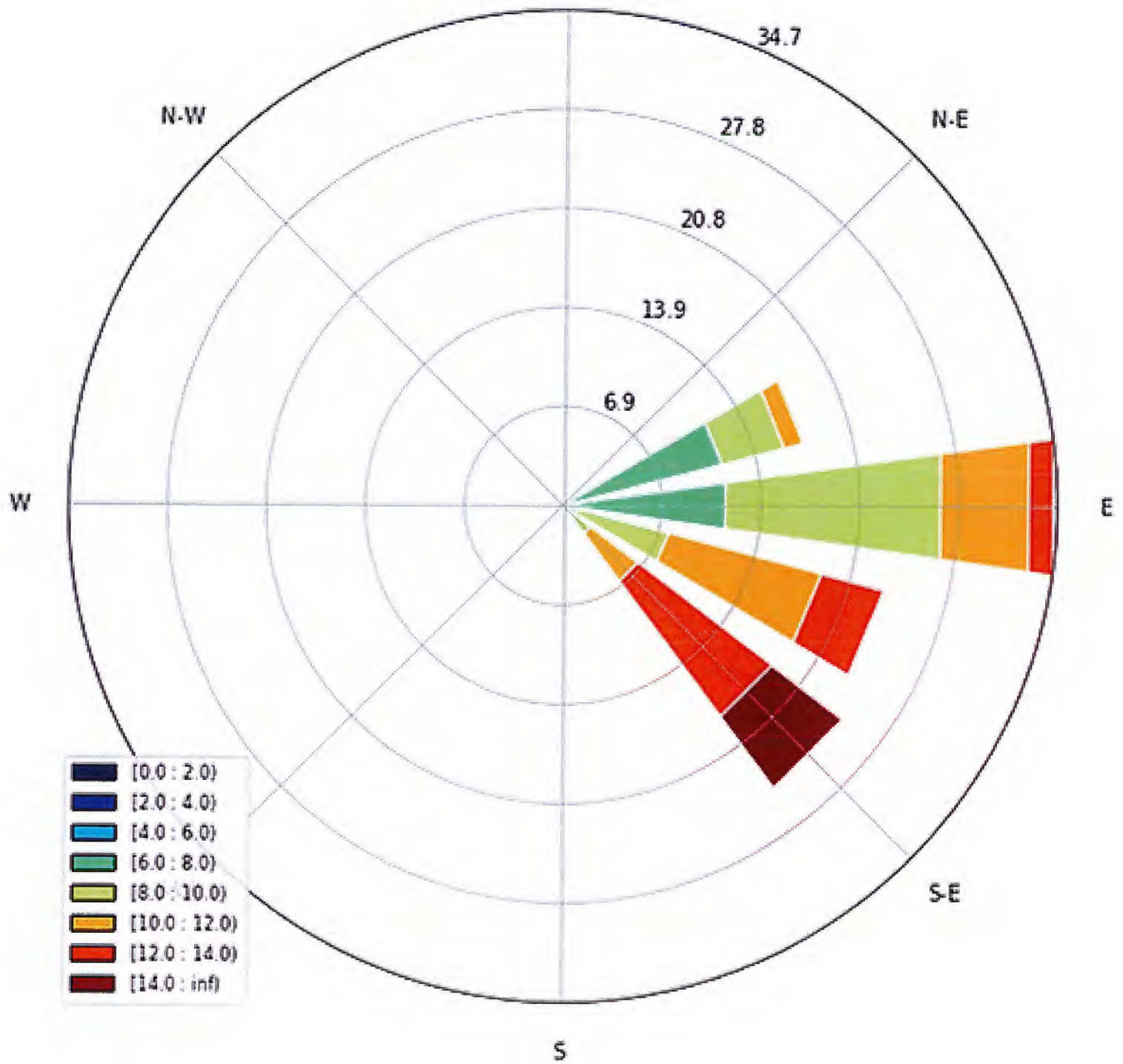
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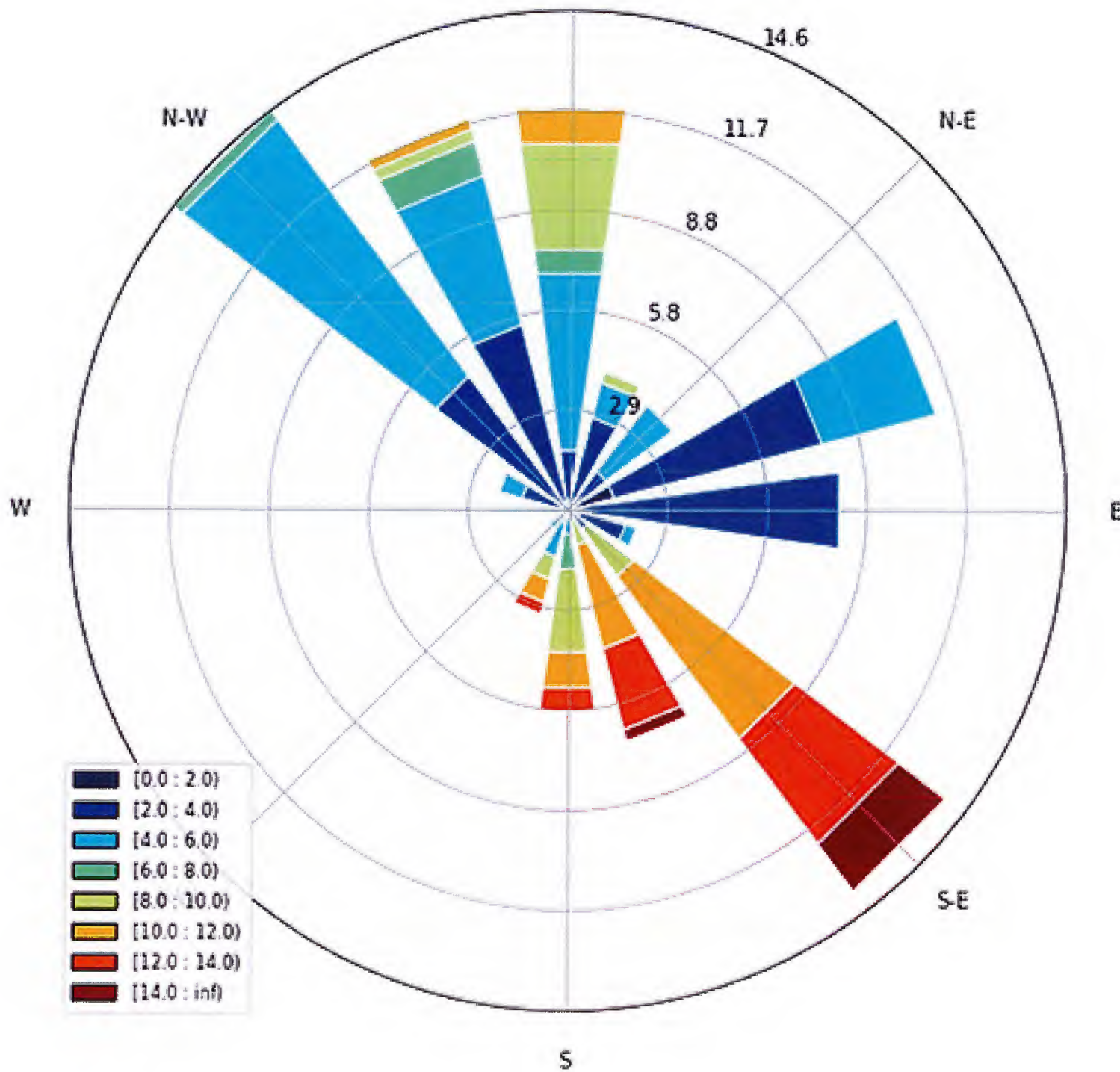
FPC: Dec 25 2018



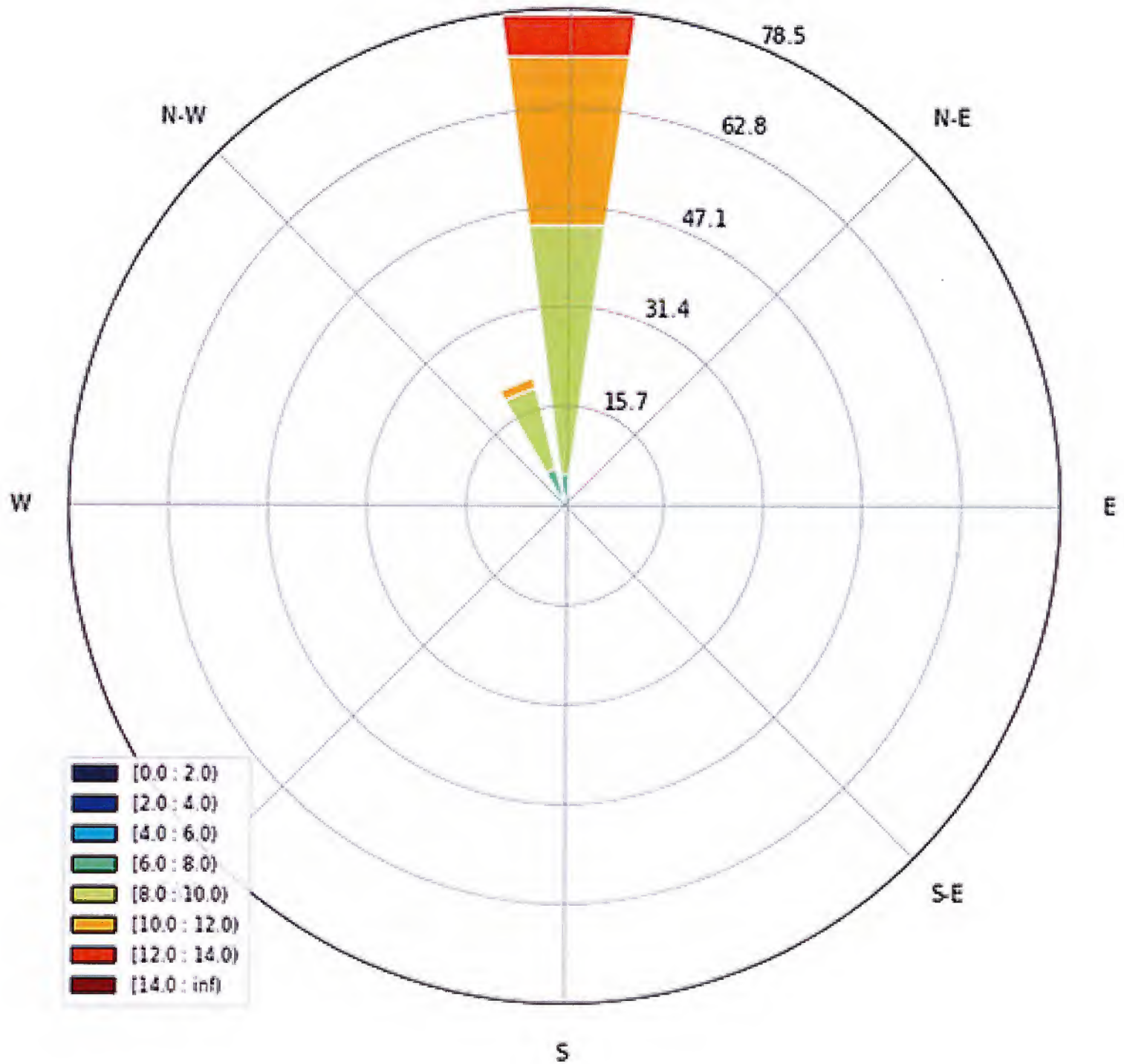
FPC: Dec 26 2018



N



N



# N



N



FPC: Dec 31 2018

